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JULY 1947

IN TWO SECTIONS  
SECTION I

Index

# American Perfumer

## and ESSENTIAL OIL REVIEW

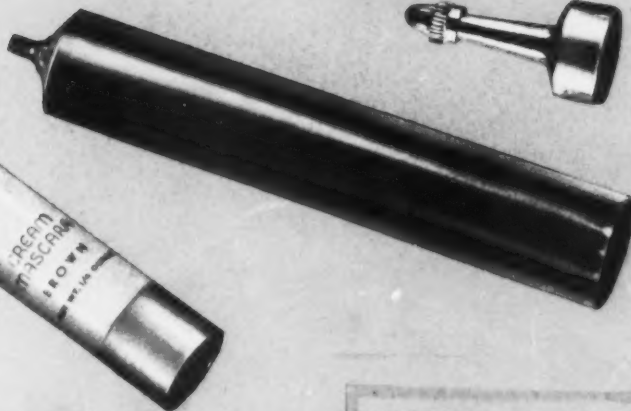
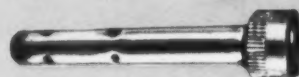
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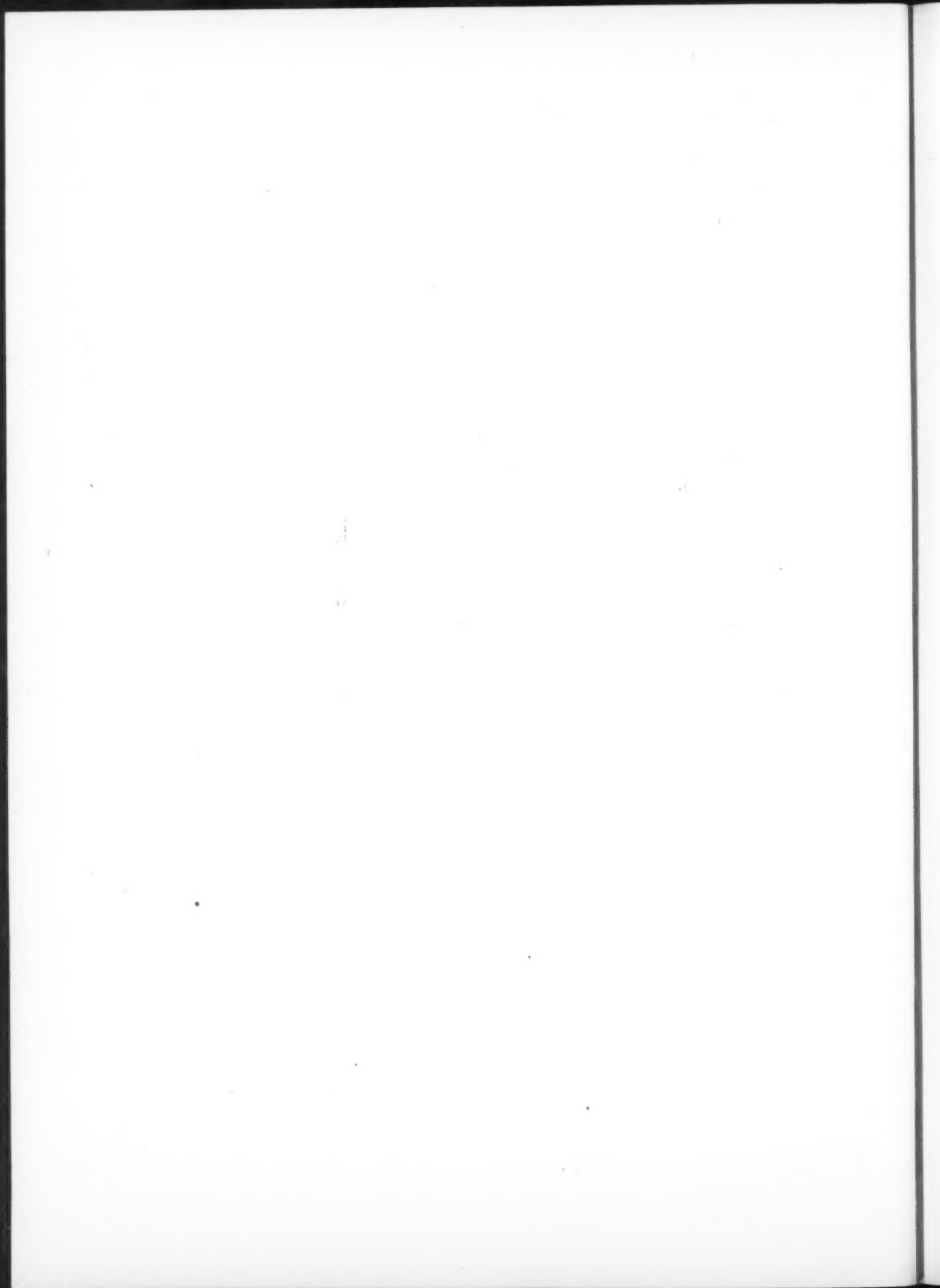


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# the American Perfumer and ESSENTIAL OIL REVIEW

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## Editorial Comment

### U. S. Trade Practice Operation Interests Canadians

When the Trade Practice meeting, presided over by Henry Miller, was held May 12 and 13, in New York, N. Y., it was attended by a number of representatives of the Toilet Goods Manufacturers' Association.

The meeting made such a deep impression on them that at the annual meeting of their association held recently at Manoir Richelieu, Murray Bay, Canada, it developed that a committee was established for the purpose of setting up trade practice rules to be followed by Canadian toilet goods manufacturers.

### On Hiring The Handicapped

Studies made by private groups and by the Bureau of Labor Statistics for the Veterans' Administration show that there is less absenteeism, less "job-jumping," equal or better production records, and fewer injuries among impaired workers than among the unimpaired. By hiring a fair proportion of this type worker, the manufacturer is performing a patriotic duty and at the same time indulging in good business practice.

### The Excise Tax

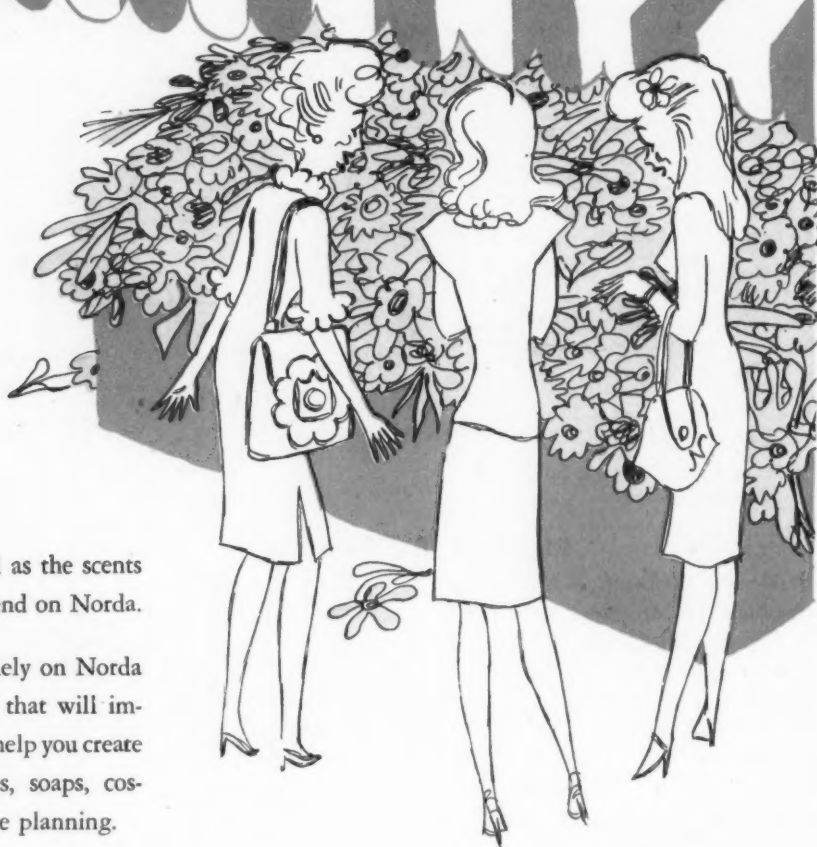
One of the reasons cited for the current dearth of sales in cosmetics has been the 20 per cent excise tax. It is a high tax, right out in the open, which is as it should be, and there can be no question but what it is a large factor in sales resistance.

Recognizing this, many individuals in our industry have attempted to have the tax reduced; so far without success.

### Some Service

A great deal of finger-pointing has been going on as to the why and why-not of toilet goods sales. We wouldn't know about that but what we *do* know is that recently we walked into the cosmetic section of a large Fifth Avenue department store. There we found that sales girls outnumbered customers in the proportion of seven to one.

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28 July, 1947

*The American Perfumer*

# Desiderata

by MAISON G. DENAVARRE

## CHLOROPHYLL DEODORIZERS

In glancing through some old books recently, I came upon one that had an interesting passage entitled "German Method . . . of Purifying the Air." The method consists of getting "a few green branches" and placing them in a suitable vessel with water (so they won't die presumably). "The exhalation of green plants, under the influence of solar rays, greatly tends to purify the air."

Seems like I read a patent recently which said something about the value of chlorophyll (with or without benefit of sunshine) in purifying the air. Aiding or abetting the effect of chlorophyll in the patent, of course, is a good slug of formaldehyde, a well-known air and odor purifier.

So, the patentee may not have been the first one to discover the value of green plants of chlorophyll in keeping the air pure, in the forest or elsewhere. In fact, it was known as far back as 1829, the date of publication of this interesting book called MacKenzie's 5000 Receipts, published by James Kay Jun., & Brothers of Philadelphia, page 241. Guess there really isn't very much new under the sun.

## CORRECTIONS

Glancing through other trade journals recently, I note that quite a number of them have been publishing corrections. Now I have some of my own.

In the article by Govette & deNavarre on Aluminum Chlorhydrate, *AMERICAN PERFUMER*, April 1947, two errors—at least they have an erroneous meaning—appeared. To begin with, an accidental reference note on page 366, column 1, appeared showing Atlas Powder Company as

the supplier of Aluminum Chlorhydrate. They are not. The Schofield Donald Company of Newark, N. J., makes the product. (Since the publication of this article the firm name has been changed to Reheis Co., Inc.)

In one of the formulas, Veegum is used. This refers to the product as it has been sold in the past, namely, as a 5 per cent gel. Today, it is sold as a dehydrated material as well as a gel. It is the gel we used. The dehydrated product would make the formulas inoperable.

My apologies to all readers. I was trying to make a deadline and was a bit overly anxious it seems, for these bits of error slipped by.

## MEASURING FOAM

Anyone experimenting with soap solutions or shampoos of any type eventually faces the problem of determining the comparative ability of several formulas to produce foam. All chemists have been looking for a good method. So have I. To satisfy readers and myself, I approached Sidney Ross, veteran scientist, who knows as much about foam as anyone, to write an article for the *AMERICAN PERFUMER* on the subject. After several weeks of studying, Dr. Ross replied as follows:

"It is now my opinion that it would be rash to venture to write anything on this complex subject until better information is available concerning the variables that are encountered in practice. We know something of the action of defoaming agents and particularly how specific they are in their effect. As well as that, the mechanism of foam production itself may affect the quantity of foam produced. There are therefore two large groups



M. G. DeNavarre at work in his laboratory

of unevaluated factors: First, the materials that may be encountered on human heads that have specific effects on foaming characteristics of a shampoo—effects that no method of pre-testing could predict; and second, the mechanism of foam production, which includes the fineness, length and texture of the hair itself as part of the "machinery" by means of which a foam is produced, and which again will affect the amount of foam in a way that no testing could anticipate.

"Until all these factors have been patiently unraveled, one by one, to discover the contribution made by each, as well as the effect of their combination in various degrees, it seems futile to seek any laboratory test that can hope to forecast the results met in actual use. In this respect the crudest methods of testing (such as the bottle test you described in your letter of May 1st.) are as satisfactory as the most refined and complex procedures, inasmuch as the certain knowledge remains that any results obtained are likely to be contradicted by some unknown factors in actual use.

"It does not seem to me that there remains any more to say on this subject at the present time."

So, it looks like it is anyone's guess when it comes to measuring foam and trying to tie it in with probable performance on the human head. The only way I know of doing it is to try it on half-head tests, using a trained operator who will evaluate the foam, cleansing, sheen, manageability, effect on wave, and the lasting

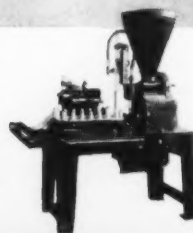
## HERE'S A *BETTER* TUBE FOR TOOTH PASTE!

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effect of the sheen, to mention only some of the things to look for.

#### SARRIA VS. WELLS

Freddy Wells writes: "I am duly grateful for the space given to my opinions on page 141 of the February 1947 issue of THE AMERICAN PERFUMER. May I point out, however, that I have been somewhat misquoted? What I actually wrote is this: 'Vast quantities of face creams and ointments, based on fatty alcohol sulphates as the emulsifiers, have been successfully used in Britain . . .' Moreover, I pointed out that the sulphates concerned (and they are sulphates, not phosphates) were those known commercially as Lanette Wax SX, which is a mixed cetyl/stearyl alcohol containing about 10 per cent of the corresponding sulphated alcohols.

"The English-manufactured Lanette

Wax SX (A) has been based on the sulphate, but before the war the English makers also handled the partially phosphated German product, Lanette Wax SX (N). It is, therefore, easy to see why even well-informed people like Macias-Sarria and deNavarre are a little uncertain on this point. As a matter of fact, even Martindale (Extra Pharmacopoeia, 1941) gets rather mixed up over the sulphated and phosphated products.

"The position, briefly, is this: Partially sulphated cetyl/stearyl alcohols constitute the well-known, widely used and widely approved English emulsifying agent of this type. The said agent is used in pharmaceutical ointments as well as cosmetic creams—and I should not be at all surprised to see this product exalted, in the not too distant future, to an honoured position among officially sponsored materials . . ."

of which is as follows: Wetting agent No. 3177 75 parts, wetting agent LI 2 parts; cetyl alcohol 2 parts; water 21 parts. Under separate cover we are sending you the names of the suppliers of wetting agents. There are a number of ways whereby potash soap shampoo may be thickened and one is to use a solution of methyl cellulose or other cellulose derivatives. Still another way is to use sulfonated oil. Certain wetting agents are supposed to thicken soap shampoos and the only way you could tell whether this was true or not would be to try a number of them out.

#### 657. WATERLESS HAND CLEANER

*Q: Noting that you often suggest formulas, I am wondering if you can suggest something on the following: Mosquito repellent—one which I can buy the base and dilute down. Waterless hand cleaner—simple to make up. Hand cream or lotion—to be applied by women before their laundry and household work. Anything that you can do for me with respect to the above would be greatly appreciated.*

L. H. T.—PENNSYLVANIA

*A:* The mosquito repellent that you can buy and bottle is dimethyl phthalate, manufacturers of which are sent to you under separate cover. This product should be used straight and not diluted. The waterless hand cleanser can be made according to the following suggestion. These creams consist of jelled solutions of kerosene-like hydrocarbon with high water content. The jelling agent is usually a sodium or potassium soap present only in such amounts as are necessary to give you the plasticity desired. Offhand, we would suggest that this be tempered by the inclusion of a small amount of an emulsifier, glyceryl monostearate. In actual formulation, you would require something like 5 per cent of the monoglyceride, 10 per cent of stearic acid, enough alkali to neutralize about 2/3 of the stearic acid, between 5 and 15 per cent of kerosene-like hydrocarbon and enough water to complete the product. A hand cream can be made from 15 per cent stearic acid, 1 per cent potassium hydroxide, 15 per cent polyol and water to make 100 per cent. This product is best applied after the hands are washed.

## QUESTIONS AND ANSWERS

#### 654. WETTING AGENTS

*Q: Would you kindly suggest sources of wetting agents suitable for creme shampoo, bubble bath. We would appreciate your advising us of suitable buffering agent for creme deodorant, and also emulsifying agent, and sources for same.*

C. D.—TEXAS

*A:* Several sources of supply for wetting agents for cream shampoo and bubble bath are sent to you under separate cover. A cream antiperspirant or deodorant is best made from aluminum chlorhydrate which does not require a buffer together with a suitable acid emulsifier. We suggest that you read the article by Govett and deNavarre in the April issue of THE AMERICAN PERFUMER on page 365.

#### 655. RANCIDITY TEST

*Q: We would like to know the exact procedure for running the Walters, Muers and Anderson rancidity test as mentioned in deNavarre's book, page 159, and whether this test is accurate for determinations on castor oil. We would also appreciate information on suitable antioxidants for*

*this product and any other test for rancidity.*

O. O.—CUBA

*A:* Please read the description of the Kries reaction in the same book to which you refer. Prepare 0.1 per cent solution of phloroglucin in amyl acetate. Use 5 cc. of this, 5 cc. of the oil to be tested and a few drops of trichloroacetic acid. A red coloration is produced proportional to the rancidity. We do not consider any tests of this type to be exact and it should be supplemented by other quantitative measures. We do not know of a specific antioxidant for castor oil but suggest that you try N. D. G. A., 0.01 per cent with a like amount of citric acid.

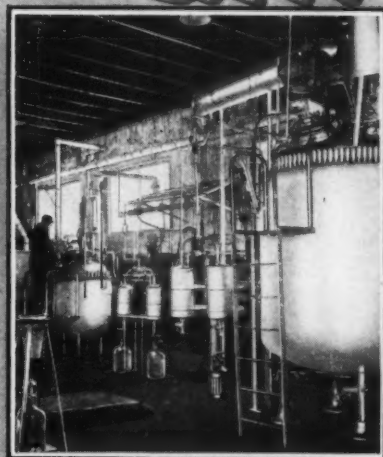
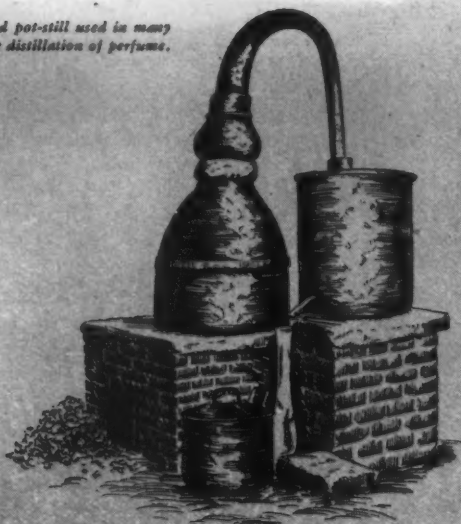
#### 656. LIQUID CREAM SHAMPOO

*Q: Will you please suggest a formula for a liquid cream shampoo? How can I thicken up a liquid potash soap shampoo without detracting from its lather?*

W. W.—NEW JERSEY

*A:* Liquid cream shampoo formulas appear in the March issue of THE AMERICAN PERFUMER, page 269, one

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# Derivatives of Thioglycolic Acid

Some of the chemical reactions of thioglycolic acid present opportunities for research and development on its use in this industry

JOHN F. MULVANEY, Ph.D., RALPH L. EVANS, Ph.D.\*

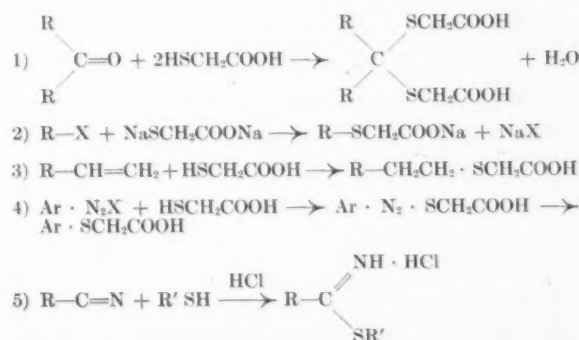
IN a paper presented before this group a year ago,<sup>1</sup> it was my privilege to discuss with you the preparation and purification, and some of the properties of thioglycolic acid. Volume production of this chemical, due to milady's desire either to wave or to remove hair, has risen steadily, and it has been accompanied by a steady fall in price. A significant recent development has been the introduction of a low-cost technical grade of thioglycolic acid. The importance of this step is worthy of emphasis for two reasons. First, it makes available to users outside of the cosmetics industry a raw material which heretofore had been excluded chiefly on the basis of cost. Second, it brings into the foreseeable future the commercial exploitation of a host of other compounds directly related to thioglycolic acid, many of which may find important uses in the cosmetics industry.

First, we would like to review for you some of the important chemical reactions which thioglycolic acid can undergo, and then, discuss briefly one specific class of derivatives—namely, the esters. A review of the chemistry of this mercaptan should impress on you some of the many possibilities for research and development which thioglycolic acid offers. Perhaps some of you may be interested to the point of undertaking your own investigations of these reactions and products. The esters to be discussed—many of which are new compounds—represent simply one type of derivative that is now ready for commercial exploitation.

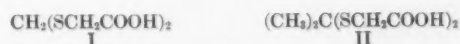
## REACTIONS OF THIOGLYCOLIC ACID

The existence of two very reactive centers in a molecule of low molecular weight makes thioglycolic acid an ex-

tremely interesting chemical substance. The carboxyl group behaves normally and is of interest chiefly because it is readily esterified. The thiol group, however, can enter into a much greater variety of reactions, so it offers many more possibilities for exploitation by the research chemist. Some of the more important reactions of the thiol group are illustrated in the following equations:



In the first reaction aldehydes or ketones may be used to produce a variety of substituted bithioglycolic acids. Formaldehyde, for example, will yield methylene-bis-thioglycolic acid (I), and acetone will give the corresponding dimethyl

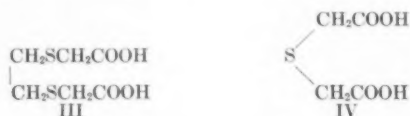


derivative (II). Both of these compounds are white crystalline solids. This reaction is analogous to the formation of acetals and ketals from alcohols; but the reaction proceeds much more readily with thiols and the resulting

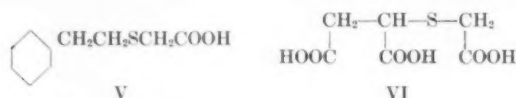
\*Evans Research and Development Corp.  
Presented before the Scientific Section of the Toilet Goods Assn., May 16, 1947.  
The authors gratefully acknowledge the cooperation of Walter W. Edman who tested these compounds for use in cosmetics, and Charles P. Shillaber who made the photomicrograph.

mercaptals or mercaptols are much more resistant to hydrolysis by acid or alkali.

The second reaction is used to prepare various thioethers or S-esters of thioglycolic acid. In most cases sodium chloride or bromide is readily eliminated. A difunctional halide, such as ethylene dibromide, will yield ethylene-bis-thioglycolic acid (III). In the same manner chloroacetic acid yields thiodiglycolic acid (IV).



The third reaction permits almost unlimited exploitation because of the many unsaturated compounds available. One of the first compounds studied in this connection was styrene which yielded phenylethyl thioglycolic acid (V).<sup>2</sup> Carboxymethyl mercapto-succinic acid (VI), formed by the reaction of thioglycolic acid and maleic acid, was originally described by Morgan and Friedmann,<sup>3</sup> and it has been developed in our laboratories to the stage of pilot plant production. As it is a water-soluble, crystalline, tri-



carboxylic acid, melting at 139-140 deg. C, it should be of interest in many fields. In cosmetics it has already shown considerable promise in exothermic compositions for the permanent waving of hair and as a replacement for the organic acids now used in colored rinses for the hair.

The fourth reaction, illustrating the direct union of a sulfur atom with an aromatic nucleus, serves as the basis for one method of synthesizing thioindigo dyes. The arylthioglycolic acid is cyclized to thioindoxyl (usually by caustic fusion) and then oxidized to the corresponding thioindigo.

The reaction of mercaptans with nitriles in the presence of hydrogen chloride as a condensing agent has been known for many years but has not been exploited to any great extent. The iminothiol esters formed as indicated in the fifth reaction are interesting intermediates and would certainly seem to be worthy of more extended investigation.

There are many other reactions of mercaptans which could be cited here. It should be apparent, however, from this brief résumé of some of the more important reactions, that thioglycolic acid lends itself remarkably well to the preparation of a host of potentially useful compounds. Many modifications of the reactions described here are possible, and as each product contains at least one carboxyl group, further modifications of these compounds are feasible.

#### ESTERS OF THIOGLYCOLIC ACID

Of the many possible esters of thioglycolic acid, only the ethyl,<sup>4</sup> iso-amyl,<sup>5</sup> octyl,<sup>6</sup> and bornyl<sup>5</sup> have previously been reported. Table I lists some of the esters prepared in our laboratory. These were all obtained by direct esterification of distilled thioglycolic acid with the corresponding alcohol. Small amounts of sulfuric or toluene-sulfonic acids were used as catalysts and benzene or toluene as a water-

entraining agent. The quality of the esters was better than 95 per cent pure, after one distillation. They are all colorless liquids insoluble in water but soluble in most organic solvents.

Many possible uses for these esters are now under consideration in various industries. One of the most promising fields of application appears to be as modifiers in polymerization, whereby use is made of the ability of the mercaptan to add across a double bond. By this means a chain reaction involving the polymerization of ethylenic linkages may be halted and some control exercised over the molecular weight of the resulting polymer.

In the field of cosmetics the most obvious use for these esters is as fixatives or additives for perfumes. These esters have exceptionally pleasant odors despite the fact that each molecule still retains the thiol grouping intact. The odors of some of the esters may be described as fruity, others are spicy, and some are reminiscent of flowers. It is obvious that fine gradations in odor can be obtained by slight modifications in the R group of the ester. A complete description of odor as related to structure in this series of esters must await evaluation by qualified perfume chemists.

The main importance of these esters certainly resides in the fact that the molecule contains the mercaptan group as well as an ester group of any desired molecular weight. Thus by varying the R group it is possible to produce an ester of almost any desired solubility. They all retain all properties characteristic of mercaptans.

These considerations then should lead one to predict the possible usefulness of such compounds as flotation agents and as antioxidants. Certainly, they are worth consideration as insect repellents and as insecticides or fungicides.

TABLE I  
ESTERS OF THIOGLYCOLIC ACID  
(HSCH<sub>2</sub>COOR)

R	Boiling Point deg. C. @	mm.
Isopropyl	50-51	10
n-Butyl	63-66	2
iso-Butyl	59-60	8
n-Hexyl	103-105	7
n-Decyl	148-150	8
n-Dodecyl	170-171	3
n-Hexadecyl	195-200	2
Benzyl	121-123	3
Phenylethyl	133-134	3
Cyclohexyl	89-90	2

A potentially fruitful field of investigation would seem to be in the use of metallic salts of these esters as therapeutic agents. To our knowledge there are only two reports<sup>5, 7</sup> in the literature on the preparation of metallic salts of esters of thioglycolic acid, and in no case is there any report on their effectiveness as bacteriostatic or bactericidal agents. The therapeutic effectiveness of heavy metals such as mercury, bismuth, gold, etc., in an oil-soluble molecule that contains sulfur should be worth determining.

#### ESTERS OF DITHIODIGLYCOLIC ACID

Dithiodiglycolic acid is a white crystalline solid which melts at 108-109 deg. C.; it is very soluble in water, alcohol, and ether. It is a slightly stronger acid than acetic acid.

A long series of esters\* of dithiodiglycolic acid have been made in our laboratories by direct esterification or by

\*These data have been submitted for publication in the *Journal of the American Chemical Society*.

oxidizing of the corresponding ester of thioglycolic acid. The alkyl esters up to and including the dodecyl are stable, high-boiling liquids, colorless and odorless when pure.

The good odor, color, stability, and vapor pressure of these liquid esters indicated that they might be useful as plasticizers. Extensive tests on several of these esters showed them to be far superior to the phthalates and sebacates in the treatment of vinyl resins. Further evaluation tests are under way and the results of these studies will be published at a later date.

It is logical to assume that the excellent solvent and plasticizing properties of these esters should make them potentially of great value in the cosmetics field. They are worth investigating for use in nail lacquers and in lipsticks. A few preliminary tests with the butylcellosolve ester has shown that it is a good solvent for bromo-acid, and that it has a bland taste. Lipsticks incorporating this and other esters are now being formulated.

Probably the most interesting series of esters that we have prepared are those esters of dithiodiglycolic acid in which the alkyl group contains from fourteen to eighteen carbon atoms. Their appearance alone makes them exceptionally interesting to the cosmetic chemist. They are all low-melting wax-like solids with a pearly sheen. Their melting points are listed in Table II. They all can be rubbed into the skin very readily and they seem to have an exceptional softening as well as lubricating effect. Microscopic

linkages of the keratin molecule in hair, as applied in the art of cold permanent waving, has been the most important reaction of this molecule.

From the brief review of some other chemical reactions of thioglycolic acid, which has been presented here, it would seem obvious that countless opportunities are available for research and development. Some of these reactions and derivatives are under investigation in our laboratories. The esters of thioglycolic and dithiodiglycolic acid reported here were among the first group of derivatives to be studied. Indications are that uses for several of these substances will be found in the cosmetic industry. Whether they or any other derivatives of thioglycolic acid achieve the importance in this industry that now attaches to the reducing property of the acid itself, is not important. It is felt that the most significant aspect of this work is that the cosmetic industry is at last utilizing the imagination of its own research organizations to develop products that are "tailor-made" to suit their own requirements.

<sup>1</sup>Mulvaney, J. F., *Proc. Scient. Sec. Toilet Goods Assoc.*, May, 1946, No. 5, pp. 33-38.

<sup>2</sup>Holmberg, J., *Prakt. Chem.*, 141:93 (1934).

<sup>3</sup>Morgan, E. J., and Friedmann, E., *Biochem. J.* 32:733 (1938).

<sup>4</sup>Klason and Carlson, *Ber.*, 30:736 (1906).

<sup>5</sup>U.S.P. 1,689,366, Oct. 30, 1928.

<sup>6</sup>Snyder, H. R., Stewart, J. M., Allen, R. E., and Dearborn, R. J., *J. Am. Chem. Soc.*, 68:1426 (1946).

<sup>7</sup>Rouillier, C. A., *J. Am. Chem. Soc.*, 41:777-81 (1919).

TABLE II  
ESTERS OF DITHIODIGLYCOLIC ACID  
(SCH<sub>2</sub>COOR)<sub>2</sub>

R	Molecular Weight	Melting Point
Myristyl .....	574	34.5-35°C
Cetyl .....	630	44.0-44.5
Stearyl .....	686	52.0-52.5

examination shows them to be composed of extremely thin plates which would account for their unusual slip.

The fine, extremely thin nature of these crystals is evident from this picture. The thickness of these crystals is estimated at not greater than 3-4 microns.

The unique combination in these three solid esters of the important properties of high lustre, melting point at body temperature, crystalline structure, and excellent slip should make these compounds important ingredients of face powders, lipsticks, creams, etc. The results of some preliminary formulations of lipsticks, cleansing creams, foundation creams, and face powders are most promising. In a vanishing cream, for example, the partial replacement of stearic acid by these esters results in improvement not only in texture but also in application properties. The residue left on the skin after use of it was much softer and less resistant. The results of these and other examples of cosmetic formulations with these new compounds and the use of them in clinical tests will be reported in more detail at a later date.

#### SUMMARY

Thioglycolic acid has been for several years a well-known chemical in the cosmetics industry. Use of it by this industry has been based completely and exclusively upon the property of this molecule to act as a reducing agent. More specifically, its ability to reduce the disulfide

## Report on Essential Oils

Annual exports of lemongrass oil from El Salvador are estimated at about 1200 gallons. Virtually all lemongrass oil produced in El Salvador is exported to the United States.

Interest in the cultivation of lemongrass in El Salvador during the recent war resulted in the establishment of a small farm of about 200 manzanas (1 manzana = 1.727 acres) devoted to its production. The project is located near the Northwest coast in the department of Sonsonate. In conjunction with the farm, a distillation plant is operated for the production of uncertified lemongrass oil. Processing of the oil is limited to simple distillation. About two barrels of 54 gallons each of lemongrass oil are produced monthly, indicating an average annual yield of approximately 6.5 gallons per manzana.

Although the Centro Nacional de Agronomía de El Salvador has conducted investigations which indicate that lemongrass oil can be profitably produced in the country, there are no organized activities for promoting its cultivation.

During February, 1947, declared exports of essential oils from the Marseille Consular District of France to the United States were valued at \$6,125. These exports consisted entirely of lavender oil. In the corresponding month of 1938, declared exports of essential oils to the United States included lavender oil, valued at \$16,014; almond oil, \$3,035; and other essential oils, \$2,722.

Declared exports of essential oils from the Marseille Consular District to the United States in January, 1947, were valued at \$43,720. In the comparable month in 1938, exports of essential oils to the United States were as follows: Lavender oil, \$605; bitter-almond oil, \$194; jasmine oil, \$2,633; other floral oils, \$5,145; and other essential oils, \$5,946.—*Foreign Commerce.*

# Construction Trends FOR

## Cosmetic Plants

**E. WARREN BOWDEN\*** *Modern cosmetic plants are being constructed with the view to increase in labor efficiency and production, space for new changes and equipment, and plant expansion*

**M**ANY manufacturers of cosmetic products are eyeing with growing concern their existing production capacity. In case after case there are definite limitations to increased output, and, today, some companies have reached—or will soon reach—a point of diminishing returns.

The natural outgrowth of any excess of demand over supply will be the establishment of new or enlarged manufacturing facilities. Those companies who plan to build in the near future, or even those whose planning may only be in the nebulous stage, might well consider the many ramifications of building an industrial plant or laboratory. As a backdrop to the myriad of problems that arise in a building program, it is important to know something about the trends in modern plant construction and especially how they relate to the cosmetic industry.

### FUNCTIONAL YET FLEXIBLE DESIGN

Probably the most significant feature of the modern cosmetic plant is that it will be functional, yet flexible, in design. This means that the building, regardless of its structural composition, will efficiently serve the purposes for which it is built. Most processes in the manufacture of cosmetics and related products would be at top efficiency if laid out in an open area without regard to the limitations of walls or columns. Therefore, the most efficient structure should be designed to impose only minimum restrictions on process operations.

Briefly, here are some of the characteristics likely to be found in a modern cosmetic plant:

It is essentially of single story design, except for certain special process requirements and the office section, which may have two or more floors. It has a steel frame, concrete floors and brick walls. Windows have metal sash; the roof deck is either wood, steel, concrete or gypsum; and the roof covering consists of built-up or ply material. Lighting is chiefly fluorescent; heating accomplished by a warm air system or complete air conditioning; and special consideration is given to sanitary conditions as well as to attractive exterior and interior appearance.

\* Vice-President, Walter Kilde Constructors, Inc.

This description of the ideal modern plant simply serves to indicate certain high-lights in today's plant construction trends. For instance, there are many excellent and efficient multi-story cosmetic plants still being built. The recently completed plant for Shulton, Inc. at Clifton, New Jersey, is a good example of a spacious, workable multi-story building.

There are many factors to be considered in choosing between a multi-story and single story plant. Primary consideration must be given to the manufacturing operation. Some drug processes require unusual height or may need to take advantage of gravity in moving materials from one operation to the next. Such conditions call for more than one story. Other factors include the size of the plant relative to the land available, soil conditions and topography at the site, and cost of construction.

### TREND TO SINGLE STORY CONSTRUCTION

By and large, excluding limiting factors, there is a definite trend to single story construction which is concurrent with a trend toward more spacious buildings on open and ample sites, with relatively wide column spacing inside and room for further expansion on the outside as well as room for adequate parking areas for employees' cars.

The older cosmetic plants are characterized by cramped, narrow spaces, forests of columns, many walls, inadequate windows, poor light, both natural and artificial, faulty ventilation, elevator bottle necks, inadequate employee facilities, poor and inefficient provisions for receiving and shipping and little or no provision for plant expansion. The modern plant, on the other hand, is designed specifically to overcome these handicaps to production.

It provides spaces large enough for not only presently known production line needs but for new changes and new requirements that may develop in the future. Adequate aisle spaces and properly arranged auxiliary areas permit the free flow of materials in process of manufacture and provide also for the proper storage of raw materials, packaging supplies and finished goods. And last, but by no means least, a conscious effort is made to provide com-

fortable worker facilities now recognized as indispensable for the plant designed to meet today's competitive conditions.

The process of evolution in the basic conception of the plant has been to move from the era in which processes were entirely secondary to the plant structure to that in which the processes are paramount and the governing factors in determining the basic forms which the plant structure will take. This trend will be even more marked, if possible, in future plant development.

This trend has produced the one story plant with wide column spacing as a natural result, since in the one story plant heavy loads are carried by floors placed directly on the ground, and wide, clear spaces are attained at little cost since only relatively light roof loads are carried, whereas the same results in a multi-story structure would be almost prohibitively expensive. Improved methods of handling and of storing by means of lift trucks by the use of pallets have developed concurrently. The outlook for the future is toward the more general provision for relatively heavy floor loads, and for the almost universal adoption of ample spans. Both factors result in greater plant flexibility so that obsolescence of manufacturing equipment and change in methods will still find the plant able to serve with efficiency.

#### **MATERIALS IN PLANT CONSTRUCTION**

In design of the plant structure, materials and methods which will speed up the process of construction or will save in the quantities required, or will add to the life of the structure, are constantly being sought. In general it may be said that there have been relatively few radical changes in design or construction methods. Most of the basic materials now in use have been available for years. However, such materials as aluminum, stainless steel, and various light metal alloys are finding an ever increasing acceptance in the field of plant construction. Other materials such as those used in acoustics and in insulation have been steadily improved. Other products which will some day be commercially feasible are still in the laboratory stages of development and still remain to be made at sufficiently low cost to be competitive with products now available. For instance, a durable, lightweight floor utilizing plastics—desirable in many respects for industrial flooring—was developed and used during the war for airplane cabins. Someday it will be used in the flooring of manufacturing plants, but at the present time it costs several times as much as other type floors. It must wait until some producer turns

it out at a competitive price. Some materials, as in the case of certain finishes, will require months or even years of testing before they are generally approved by architects and engineers.

Steel for the structure, while not appreciably different in physical properties from that in use for many years, is now much more efficiently utilized. More accurate methods of design have permitted the use of higher unit stresses and have thus saved in the tonnage of steel required. Welding in place of bolting and riveting has also effected savings in the steel.

In the field of reinforced concrete structures, refinements and improvements in the engineering design have also been made, and methods of securing dense, high-strength concrete are more generally understood and followed. In this field prefabricated units—columns, girders, beams, etc.—are now being offered, and may become widely used in years to come in instances where the advantages of a fire-proof structure are required. Economical methods of casting light-weight arched concrete roofs may also develop a wide field of use for this material. Similarly, economical methods now proposed for casting and erecting concrete wall sections may come to be of importance.

In its details, the trend is toward a clean cut simplicity of lines and proportion which makes very little use of unnecessary embellishments. An example of this, is the elimination of the parapet wall—that part of the wall that extends above the general roof level—except in such cases as really require this type of treatment. In fact, there will be a general simplification of details of all sorts with a resultant elimination of such items as bands of brick on top of the steel sash around a one-story building, ornamentation over entrances, and many other frills and furbelows.

The general use of ample window areas for natural light and ventilation with bands of continuous sash, has been the custom for a number of years. If anything, the trend is now toward less sash areas, in recognition of the discomforts due to heat from the sun in summer and excessive loss of heat in winter.

Wartime necessities, the use of multiple shifts in manufacturing operations and in some cases the nature of the manufacturing process have led to the building of windowless or so-called "Blackout" plants. There is no reason to believe, however, that there is any sort of trend in this direction, particularly in the cosmetic industry.

#### **AIR CONDITIONING EQUIPMENT**

However, there is a definite trend to air conditioning



The recently completed plant for Shulton, Inc., is a fine example of a spacious, workable multi-story building for manufacturing cosmetics

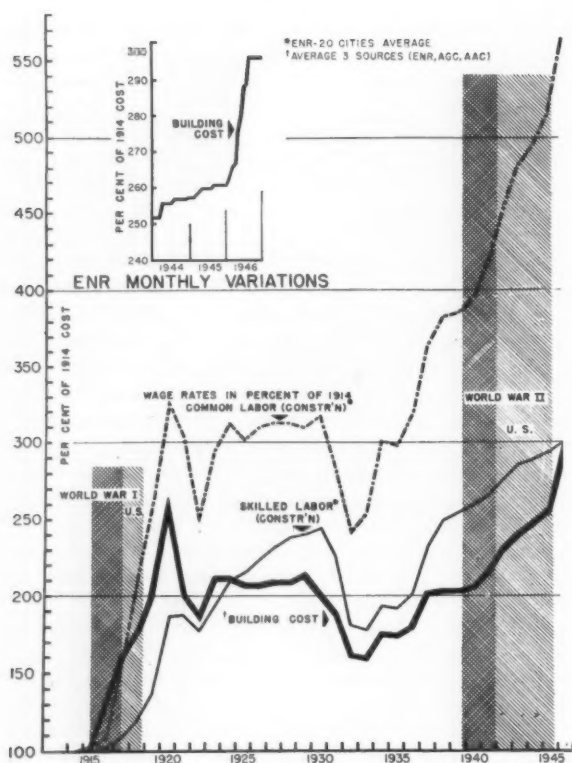


Chart I. Building costs and wage rates compared with 1914

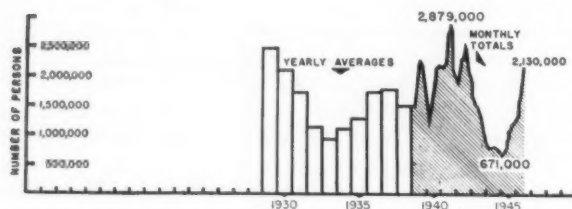


Chart II. Construction employment public and private

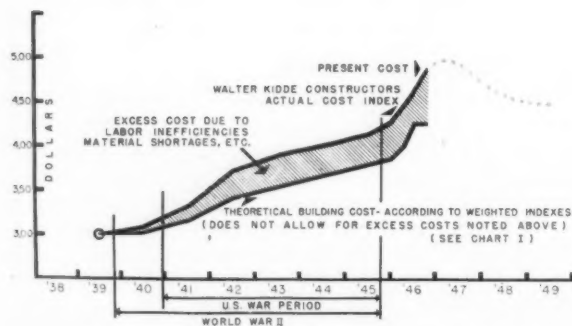


Chart III. Cost per sq. foot to build typical manufacturing plant

equipment which implies a minimum of window area. When installation of air conditioning is not possible initially because of financial reasons, provision is usually made by using a warm air heating system for later conversion to

air conditioning. Such conversion is generally found to be desirable since most cosmetic processes require dust-free conditions and controlled temperature and humidity. Air tempering and conditioning is an important means of providing the best possible working conditions for employees.

There are many other interesting developments that bear the imprint of the influence of personnel relations on plant design. It is becoming increasingly important for the manufacturer to provide conditions which will both attract and hold workers to the job. In addition to air conditioning, these include the following: high levels of illumination; ample locker and toilet facilities; first aid, rest rooms and recreation facilities; cafeterias; use of color in decorative scheme; sound proofing; music and public address system.

Illumination has, in general, tended toward the provision of increasing light intensities. It is no longer uncommon to find 35 to 40 foot candles in ordinary working areas. Easing of eyestrain and arrangements to minimize troublesome shadows are being constantly sought. There will undoubtedly be more general use of "cold cathode" and possibly other developments in the lighting field.

The interior of the modern cosmetic plant is not only becoming more spacious and "livable" but is also being given a high degree of finish to suggest a neat and clean appearance. Interesting color schemes are also employed for the same purpose. This provides more enjoyable working conditions for employees and, also, makes possible the new vogue of inviting the public to inspect the manufacturing facilities.

Another interesting appearance trend in the construction of cosmetic manufacturing facilities is the use of light brick for the exterior of the plant. This gives a clean-cut appearance, which, in a sense, is symbolic of the quality of the manufacturer's product. This trend is an important one, especially if the new plant is to be located on a busy thoroughfare or near a main railroad line where the advertising and goodwill value of the building is high.

## Exports of Essential Oils Ceylon

Ceylon's exports of citronella oil during the last half of 1946 amounted to 708,462 pounds, valued at 4,461,190 rupees, compared with 459,136 pounds and 1,408,156 rupees in the like period of 1945. Such exports in the January-June period of 1946 amounted to 1,017,251 pounds, valued at 4,256,726 rupees. In 1946, the United States imported from Ceylon 312,446 pounds of citronella oil, valued at 1,669,285 rupees.

Exports of cinnamon-leaf oil from Ceylon in the last six months of 1946 amounted to 698,208 ounces, valued at 280,721 rupees, as compared with 415,480 ounces and 145,417 rupees in the corresponding period in 1945. In the first half of 1946, such exports totaled 526,895 ounces, valued at 210,756 rupees. During 1946, the United States took only 500 ounces of cinnamon-leaf oil, valued at 200 rupees.

Ceylon exported 6437 ounces of cinnamon-bark oil, valued at 50,915 rupees during the last six months of 1946 compared with 2724 ounces, valued at 15,322 rupees in the like period of 1945.

# Short Adages

R. O'MATTICK

THE warm weather has not prevented Dr. Rowmaterial from scurrying here and there to see everything, or nearly everything, that might give him in some way ideas on how to promote the sale of Essential Oils, Flavors, Aromatics and Perfume Oil Compounds. In addition to attending the TGA Convention in May and running up to Murray Bay for the Canadian Toilet Goods Convention in June, the good Doctor spent some time at the Flavoring Extract Convention in Atlantic City and was also at Skytop, Pa., Tree-Top, La., and Hot Springs, Va., and a dozen other places in betwixt and between. When he gets a chance to do all the other things he does is beyond our meagre comprehension!

Two of the recent gatherings he visited were the Mid-Year Meeting of the Grocery Manufacturers of America at Skytop Lodge and the New York Times Rose Show at Times Hall. "It is a far cry from canned goods and tomato sauce," he said, "to all the new varieties of roses but essential oils have to do with them all."

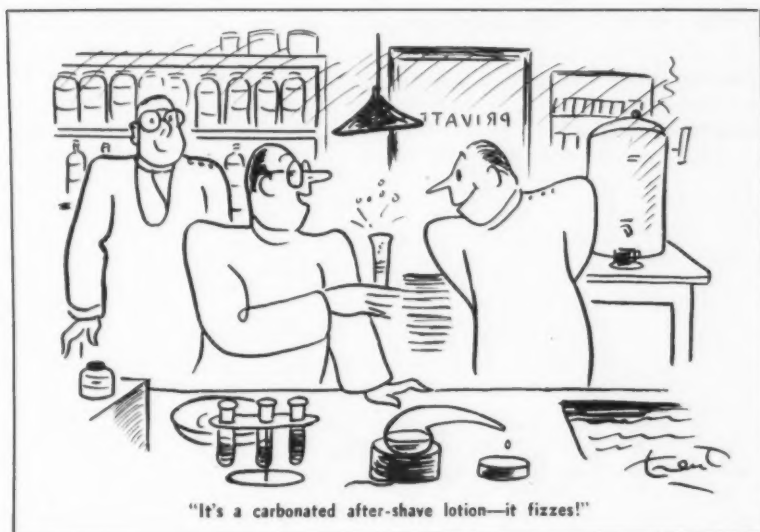
At the Grocery Manufacturers' Meeting, Dr. Rowmaterial met many of his friends and cronies of the Food Industry who use the flavors which he has created for improving the taste of everything from spiced tongue to pickled peppers, from biscuits to bacon and from chowder to cherries.

A good time was had by all, as the saying goes, and the golf was most enjoyable at Skytop. (We have received one of those "wishyouwerehere" cards with the Doctor's golf score duly attested to by two other well-known golfers of record and tellers of tall tales, Messrs. Sand L. Wood and Pat Chouli).

The Rose Flower Show held the Doctor's interest because of the four new varieties which were exhibited and which gave him some new ideas about Rose Perfume Oil Specialties. He inhaled (the Doctor dislikes the word *smelled*) some very pretty inhalations while at the Show.

A recent circular describes two new adhesives for use in the cosmetic, drug and allied industries. One of them is said to be a cold-settling, thermoplastic synthetic super-surface tension potential oxidation-resistant material and the other is a product catalogued in much the same type of word picture. But what we want to know is "Do they stick?"

If you have not seen the poster design work of Mr. Paul Rand who has made posters for the New York Subways as well as other places, you have missed something. His



creations have justly been described as "unique poster treatments which sprout from a fertile and uninhibited imagination." We would like to see a number of perfume and cosmetic firms make use of such treatments in their advertising instead of going along on the same old lines as they did when the carriage trade of New York passed by a stone wall that bordered a reservoir at 42nd and Fifth Avenue back when there were wild lands above 57th Street.

All this is not a plug for Mr. Paul Rand whom we never had the pleasure of meeting and whom we know only through some of his work. But if he wishes to reciprocate for this million dollars worth of free publicity by making a design for the top of this Column, we shall gladly accept it (*gratis*) sight unseen.

We have learned that the War Assets Administration wants to sell two million camouflage paint sticks and includes with the folder offering this bargain a detailed method for recovering the lanolin, the hydrogenated castor oil and the carnauba wax in these sticks. This shows one place where some of the lanolin and other ingredients went to! But we are not to be blamed for wondering whether anyone is really going to try to recover these ingredients from the two million sticks, although stranger things have taken place in this most wonderful of industries: the Perfume and Cosmetics Business.

One other wonderful thing—and we happen to know that it was a sincere statement—a President of one of the largest houses in the world which has cosmetic as well as other items on its list of manufactured products—makes a public address in which he states that he would rather see less money spent for cosmetics, and a number of other things and more money spent on education!

Personally, Pat Chouli would rather see more money spent on cosmetics and on education and on everything else. The other day he tried to explain to his eleven-year-old son why the government couldn't keep on printing more and more money so that there would be enough to go around for everything and every-body but he got quite tangled up making the whole thing clear.

*Stores are installing dram perfume counters to capture large market . . . Every day is Father's*

**JEAN MOWAT** *Day . . . Promotions return*

## COSMETIC TRENDS IN THE MID-WEST

**I**T has been said, there is nothing new under the sun, but Solomon probably didn't consider the advent of the flying machine and the discovery that a sealed top to prevent leaks or air-intake is as important for perfume and cologne as for a fountain pen.

Now that travel is free and women are doing more flying than at any time in the history of aviation, complaints have been made at fine shops that colognes lose their scent and change color in the air, when flying at high altitudes—11,000 to 15,000. Buyers naturally assume that such a complaint is not justified. From their point of view they are right. From the customer who does not receive a replacement, that is not a good viewpoint.

The other day, while chatting with a buyer, a comely and smartly dressed woman stated she had purchased a 2-ounce bottle of a fine cologne at \$8.50. After a round trip to Los Angeles it had turned a muddy brown and lost all fragrance. She purchased an ounce of perfume to put into the bottle and use it, for the store was indifferent to an exchange. Such a tale should have made the buyer ask the customer for the bottle so she could return it to the maker for study and analysis.

In conversation with the customer, who was definitely above the average in intelligence, she made the statement that the hostess commented it was a wonder it had not exploded. This raised the question of whether or not there were enough of these "explosions" to form a basis for comprehensive study.

Checking with the stewardesses of both United and

American Airlines sections which fly the mountains every day some interesting facts were revealed that should be of great interest to the makers of perfumes and colognes. Stewardesses carry nothing but solid cologne because there is no evaporation and no loss in the fragrance. When passengers are booking sufficiently far in advance they are advised that all bottles should be securely capped and carried in an oil-skin case, for this saves the clothes and also helps to prevent evaporation.

As only the new DC-6s have pressurized cabins, the higher altitudes at which the DC-4s fly can easily cause quick evaporation even when the contents appeared to be tightly stoppered. "What is needed for passenger travel, as well as our own stewardesses," said Frank Maussner of United, "is that a sealed cap be inserted so that there can be no leak and no evaporation of the contents." Both Mr. Maussner and the head stewardess at American in Chicago, discounted the explosion idea, but as a bottle is unstoppered, there is a rush of air that pours out. As the fragrance is in the alcohol it passes out and vanishes, due to the inrush of air at a different pressure. A woman who flies a great deal told a maker his product was not as good as he thought, for it had little fragrance when she went to use it. The bottle was corked and packaged in the usual manner for travel.

During the past few months there has been an increase in solid cologne sales—which for some time had seemed to be inactive. The reason for this upturn may be the advice given by stewardesses to their feminine contingent who have had disappointing experiences with both cologne and perfume as now packaged.

### FATHER'S DAY IS EVERY DAY

The June celebration of Father's Day was about in proportion to the amount of merchandise that was expected would sell. What has been of widespread interest to the trade is the fact that there has been such a drive made on colognes, lotions and shaving needs for men as well as well packaged deodorants that every day is now considered Father's Day for there are anniversaries and birth-days. Even more important, report popular priced stores and downstairs departments, men are buying these items themselves and taking the smart looking bottles.

The recent celebration was widely heralded throughout the entire Middle West. More space was given to this presentation in Minneapolis, Milwaukee, Duluth, and Detroit and Chicago than at Christmas. Fine soap was also featured in addition to the shaving items and lotions and other articles for men.

### BUBBLE BATH IS BACK

Several months ago wise acres (buyers to you) stated from such centers as Kansas City, St. Paul and St. Louis and Chicago that bubble bath powders and tablets were through. Special reductions were offered and stock cleared. Then the cold spring made a change. Bubble bath salts, tablets, powders were asked for and stocks were very low. One store in Chicago that had bubble bath colored balls, in a cellophane case a few years ago, found these were available for immediate delivery. An order was placed against the buyer's wishes but it was all that could be had for immediate delivery. When shown during the war years these had not moved. Today these colored balls, that look like the candy balls in the school store and are as varied

in color, move off the counter with such speed that the buyer merely shrugs.

#### SHOWERS VS. TUB

Every major store throughout this district is offering pine oil for the tub. Three months ago this was rated the best seller but today it is on the counters with a special price. Due to the very heavy convention traffic, this item is moving for many smaller stores throughout the country did not have much in stock. Women who have used it like it and much of the present selling is repeat business.

#### KITS FOR TRAVEL

For the first time in some years there are moderate priced travel kits available for the average person who has but two weeks for a vacation. They contain cleansing, tissue, night, lip and cream rouges, astringent and a few have a 1/4-ounce perfume so that the same fragrance is carried throughout the entire kit. They are enjoying good sale in inland cities such as Des Moines, Omaha and Kansas City. What is most imperative for these kits is that they be light in weight and when possible plastic jars should be used in order to reduce weight for air travel. When a woman is only allowed 40 pounds of luggage for an air trip and the travel kit with its accessories runs to about 10, it doesn't leave much for shoes and necessary apparel.

#### PROMOTION DAYS ARE BACK AGAIN

Samples that require a purchase in the department are now being offered by many of the larger city stores. Chicago is said to have started this. Milwaukee stores offer free parking for two hours if a purchase of 50¢ is made in the store and the cosmetic section has capitalized upon this fact. It pays off well.

At Mandel Brothers, Chicago, each \$1 purchase entitled one to a jar of Summer basic tint. Chas. A. Stevens & Co., in the same city offered a powder promotion free with a treatment line purchase. So far there has been little promotion—other than counter display—of leg make-up. "We don't expect to do much on it this year, if you make a comparison with our peak year of 1944," said a leading buyer. "In '42 it was just beginning and since '44 it has been slowly but steadily receding in volume sales. This year we think will be normal, and even may be less, due to the long cold Spring and a cold June."

#### NEWS OF LIP-STICKS

Many popular brands are selling at one-half price throughout the territory. There seems to be little reason for this except to balance inventory on color and maker. Emery, Bird Thayer, Kansas City, has been displaying and featuring in advertising its "rolls-on" ball point lipstick which it states is "the biggest news for lips since discovery of the kiss," and all this for \$1.59. Three shades are shown. Naturally it had wide interest, but it is too soon for repeat sales to indicate its position in the picture of sales.

The Fair, Chicago, is offering a solid perfume and deodorant combined in lip-stick container which is an ideal ensemble that many women will like. This has just been offered and is both new and unusual. The stick being a turquoise shade so that it cannot be confused with one's regular lip stick.

For the first time in many years, Summer colognes have

been featured by all leading stores as definitely highly scented and especially designed for Summer cooling and retention of fragrance. Stix, Baer and Fuller say of such colognes: "For the woman that men open doors for," and it is smartly presented both in advertising and department display. Such a line is enough to induce any woman to try it. This is one of the tantalizing sales' lines used in any of the Middle West. Too often stress is placed on the utility and the glamour is left out. Yet glamour will sell items every day, for women are equally as vain creations as men.

#### BUSINESS INDEX

If the opinion of a dozen buyers is to be accepted as an index of business, it is as up and down as the Rocky Mountains. Weather has not been favorable. Business in the \$150 an ounce perfumes in hand-made boxes has slumped off. Dram sales of Summer perfumes have never been so large and every store of major importance is installing a bar or counter for this service. Colognes are enjoying a heyday of sale.

#### TREATMENT LINES SALES SLOW

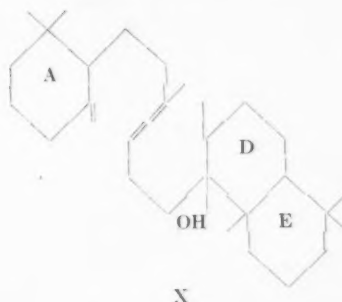
Added together, business would seem to be fairly good. But treatment lines are generally slower than might be expected for cool weather. Travel kits are active and apparently are a must sale in most instances as small jars and compactness for travel is wanted.

#### EXCISE TAX

From the buyer's point of view business would reach an all-time high if the excise tax were removed. Many women are ready to purchase, and the sales checks are made out until the women find that 20 per cent has been added, then the sale is cancelled. This is a story too often repeated in too many cities not to have weight, and until this is removed sales will not show much up-turn is a general opinion. The house-to-house saleswoman has been very smart in keeping her own accounts well protected against advancing prices and giving any sales advantages that could be made. This business continues to show increases despite the tax on products.

#### Correction

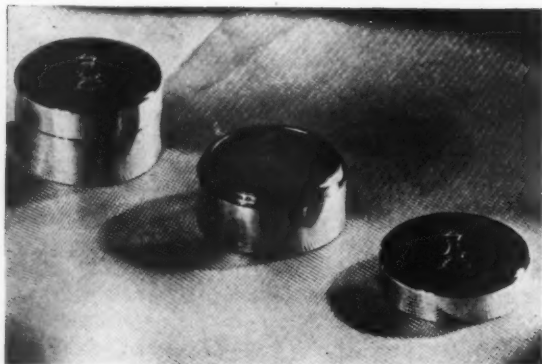
Formula X as shown in The Constitution of Amberine from Ambergris, by Dr. Hans Schinz, THE AMERICAN PERFUMER, Oct., 1946, was in error. The correct formula should be as follows:



# Packaging

## P O R T F O L I O

MARY CHESS



MARY CHESS: Mary Chess' new cream perfume package is one of the most novel and interesting. Made of aluminum, it has the rich appearance of silver. Designed with simplicity, the case resembles a tiny round pill box, ornamented only with the Mary Chess insignia.

ALEXANDRA de MARKOFF: The smart new Cosmetic "Cache" contains Alexandra de Markoff's make-up. The rich burgundy satin case, with its fresh accent of white, holds foundation film, face powder and puff, and a lipstick in a white metal miniature of the original de Markoff case. The "Cache" comes in a transparent gift box.

ALEXANDRA de MARKOFF



SERAN



## PRIMROSE HOUSE

SERAN: Seran Liquid Shampoo comes in an eight ounce modern rounded bottle. The label is an attractive combination of turquoise-blue and white with maroon printing. The bottle cap is black plastic.

PRIMROSE HOUSE: The pink liquid of lotion deodorant is bottled in a frosted glass container that appears as dainty as its content. Primrose House lotion deodorant has a flower garden fragrance and is said to be free from any damage to fabrics.



PRINCE MATCHABELLI: Abano, a favorite spicy fragrance of Prince Matchabelli's is now used to perfume talc in the handsome and convenient new mitt. An attractive combination of brown taffeta and aqua velour identifies the talc mitt.

## PRINCE MATCHABELLI



DERMETICS: Dermetics offers a "Reincarnate Your Beauty" set containing a natural estrogenic hormone oil, "Ageless," and "Reincarnation," a blush for wrinkled skin. The two ounce Dermetic flasks have gold screw tops, and the box design is carried out in white, gold and coral, lined with crisp white taffeta.

CHANEL: The new Chanel lipstick case is square, gleaming black enamel, with a square-faceted base of lucite. The famous Chanel monogram, in white, appears on the top. Each lipstick is packed in the distinctive black and white Chanel box.

## DERMETICS



## CHANEL



# FLAVORS

## Acetates As Flavor Components

*Of all the esters used in flavor formulations, the acetates are the oldest and are yet among the most useful*

MORRIS B. JACOBS, Ph.D.\*

SOME fifteen to sixteen years before the discovery of oxygen, depending upon whether the discovery is assigned to Priestley (1774), Scheele (1775), or Lavoisier (1777?), Lauraguais discovered ethyl acetate and published a method for its preparation in the *Memoirs of the Paris Academy* in 1759. Undoubtedly shortly thereafter the possibility of its use as a flavoring material must have suggested itself to various investigators. Scheele also prepared ethyl acetate. He made it in 1782 by distilling ethyl alcohol and acetic acid in the presence of a mineral acid. In 1786, Pelletier repeated the work of Lauraguais. Thus the possible use of ethyl acetate extends back to the times of the origins of what we may term modern chemistry.

The other acetate of historic importance as a flavor material is isoamyl acetate or amyl acetate for it was one of the twelve to fifteen esters commonly used in the nineteenth century in imitation flavor compositions.

### CLASSIFICATION

There are various ways in which the esters can be classified in considering their use as flavoring ingredients. It is common, because of the ease of alphabetical arrangement, to group them according to their alcohol constituent but if one considers the role they actually play in flavor formulation, classification according to their acid constituent is

more useful. Thus a number of the acetates have a pear flavor; the isovalerates carry an apple flavor from the methyl ester to the benzyl ester; many of the butyrates and the isobutyrrates have a pineapple character; and the formates carry a plum or rum flavor.

The acetates, themselves, can be grouped into three principal classes along conventional lines, namely, aliphatic acetates, aromatic acetates, and acetates of the terpene alcohols. This grouping is actually in accord with the role these esters play in flavor formulations for while in the lower molecular weight compounds the acid constituent seems to control the aroma, as the alcohol constituent increases in weight and complexity, it plays an increasing part in determining the aroma characteristics.

### ALIPHATIC ACETATES

*Methyl acetate*,  $\text{CH}_3\text{COOCH}_3$ , the simplest of the acetates is sometimes also called methyl acetic ester and methyl acetic ether, both names being carried over from older systems of nomenclature. It is a pleasant smelling liquid, generally colorless, which has a wild pear flavor, and a burning, bitter taste. Methyl acetate has a specific gravity of 0.928-0.934, it boils at 57 deg. C.; and its refractive index is 1.3593. This ester is completely miscible with ethyl alcohol and one volume is soluble in three volumes of water. It hydrolyzes readily in the presence of water and this reactivity limits its usefulness as a flavor com-

\*Adjunct Professor of Chemical Engineering, Polytechnic Institute of Brooklyn.

ponent. While it has been used in raspberry-type flavors, it is mainly suggested for use in alcoholic beverage flavorings such as whiskey, rum, and arrack.

**Ethyl acetate**,  $\text{CH}_3\text{COOC}_2\text{H}_5$ , still often termed acetic ether, is a colorless liquid, which when diluted has a bitter-sweet taste and a characteristic, agreeable, fruity, ester-like odor. Its discovery and the role it played initially has been mentioned above. Ethyl acetate has a distinctive acid flavor which is not similar to other flavors. This ester has a specific gravity of 0.896-0.900; it boils in the range 74-77 deg. C.; and it has a refractive index of 1.370. It is completely miscible with alcohol and while its solubility in water is less than that of methyl acetate, it is still readily soluble for 1 volume of the ester is soluble in 10 volumes of water. A survey of the literature shows that this ester was and is one of the most widely used in flavor formulations. It is probable that this wide use is due to the solvent properties of this ester rather than to its flavor characteristics. As a solvent it serves not only as a diluent but also as a blending agent.


**Propyl acetate**,  $\text{CH}_3\text{COOCH}_2\text{CH}_2\text{CH}_3$ , or *n*-propyl acetate, is a relatively colorless liquid with a pear flavor, a fresh fruity odor, and a bitter-sweet taste. It has a specific gravity of 0.899; it boils at 101 deg. C.; and has a refractive index of 1.3844. It is miscible with alcohol, one volume is soluble in an equal volume of 60 per cent alcohol and 1.89 grams of the ester is soluble in 100 ml. of water. Pear and berry flavors are its most common use, but it has also been suggested in cucumber and melon flavors.

**Isopropyl acetate**,  $\text{CH}_3\text{COOCH}(\text{CH}_3)_2$ , is also a colorless liquid with a fruity odor, but it has a sweet taste, and an apple flavor as compared with its isomer. Isopropyl acetate has a specific gravity in the range of 0.87-0.90 and it boils at 88-90 deg. C. It, too, is miscible with alcohol and it is more soluble in water than its isomer for 3 grams are soluble in 100 ml. of water. Suggested flavor formulations are apple, banana, currant, peach, and pear.

**Butyl acetate**,  $\text{CH}_3\text{COOCH}_2(\text{CH}_2)_2\text{CH}_3$ , *n*-butyl acetate, is a colorless liquid with a disagreeable odor, which upon dilution changes to an agreeable pineapple character. It has a pineapple flavor and a sweet-sour taste. This ester has a specific gravity of 0.879-0.882; it boils in the range 121-126 deg. C.; and it has a refractive index of 1.3951. It is miscible with 95 per cent ethyl alcohol but its solubility in this solvent decreases on dilution with water in which less than 1 gram is soluble per 100 ml. While butyl acetate is

not used as widely as amyl acetate, it nevertheless has relatively wide application, being suggested for more than 10 different fruit flavor compositions. Where it is used in high volume proportions, utilization is probably being made of its solvent properties.

**Isobutyl acetate**,  $\text{CH}_3\text{COOCH}_2\text{CH}(\text{CH}_3)_2$ , is a colorless liquid with a marked fruity odor resembling but not as delicate as that of ethyl butyrate. It has a pineapple flavor as has its isomer and a burning, bitter taste. This ester has a specific gravity of 0.871-0.875; it boils at 116-118 deg. C.; and it has a refractive index of 1.390. As with the other esters of this series, it is miscible with alcohol and one volume is soluble in an equal volume of 60 per cent alcohol, but about half a gram is soluble in 100 ml. of



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water. Some of the flavors for which it has been suggested in addition to that of pineapple are apple, apricot, banana, and strawberry.

*Isoamyl acetate*,  $\text{CH}_3\text{COOCH}_2\text{CH}_2\text{CH}(\text{CH}_3)_2$ , amyl acetate, sometimes called "pear oil," and commonly known as "banana oil" is a colorless liquid with a disagreeable odor. Upon dilution with a solvent it has a pleasant pear-like or banana-like odor from which it derives its common names. This odor is detectable at very low concentrations for one part in a million of air is readily noticeable. It has a distinct pear flavor and a bitter-sweet taste. Commercial fusel oil amyl acetate is not a single compound but is a mixture consisting of the acetates of propyl, butyl, hexyl, and other alcohols as well as isoamyl alcohol. For this reason its constants generally have a greater range than the pure compound, which has a specific gravity of 0.875-0.876, a boiling point of 142 deg. C., and a refractive index of 1.400. The grade commonly used for flavoring purposes usually boils at about 138-140 deg. C. Amyl acetate is miscible with alcohol, one volume is soluble in one volume of 70 per cent alcohol, but only about 0.25 gram is soluble in 100 ml. of water. This ester is also miscible with ethyl acetate and with amyl alcohol. Isoamyl acetate is one of the oldest synthetic flavoring materials and has had wide application in flavor compositions.

*Hexyl acetate*,  $\text{CH}_3\text{COOC}_6\text{H}_{13}$ , *n*-hexyl acetate, is a colorless liquid which also has a pear flavor. It has a bitter-sweet taste and a fruity odor. This ester boils at 169 deg. C. and has a specific gravity of 0.88-0.90. It is very soluble in ethyl alcohol and is insoluble in water. It has been recommended as a component of berry flavors and of fruit flavorings such as apple, date, pear, and pineapple.

*Heptyl acetate*,  $\text{CH}_3\text{COOC}_7\text{H}_{15}$ , *n*-heptyl acetate is a colorless liquid with an apricot flavor. It has a fruity odor with a rose note and a sweet taste. This ester boils at 190-191.5 deg. C. and has a specific gravity of 0.874. It is insoluble in water and is very soluble in alcohol. In addition to its use in apricot flavors, which is suggested by its aroma, it is used in currant and date formulations.

*Octyl acetate*,  $\text{CH}_3\text{COOC}_8\text{H}_{17}$ , *n*-octyl acetate or caprylyl acetate is a liquid with a fruity odor, a peach-like flavor, and a sweet taste. It boils at about 208-210 deg. C. and has a specific gravity of 0.873-0.874. This ester has only limited use as a flavoring agent being recommended for use in peach compositions. It is insoluble in water; it is soluble in alcohol but its solubility decreases rapidly as the water content of aqueous alcohol mixtures increases.

*sec-Octyl acetate*,  $\text{CH}_3\text{COOCHCH}_2(\text{CH}_2)_3\text{CH}_3$ , amyl  
 $\text{CH}_2\text{CH}_3$

ethyl carbinyl acetate is a liquid with a fruity odor having a rose note. It has a peach aroma and a sweet taste. This ester is lower boiling than its isomer, having a boiling point of 194 deg. C. Its specific gravity is 0.869 and its refractive index is 1.414. Because of its aroma, *sec*-octyl acetate has been used in apricot and peach compositions.

*Nonyl acetate*,  $\text{CH}_3\text{COOC}_9\text{H}_{19}$ , is a liquid with a peach flavor. It has a leafy odor and a bitter taste. This ester boils at the range 208-212 deg. C. and has been suggested for use in peach and apricot flavors.

*sec-Nonyl acetate*,  $\text{CH}_3\text{COOCHCH}_2(\text{CH}_2)_4\text{CH}_3$ , ethyl  
 $\text{CH}_2\text{CH}_3$

hexyl carbinyl acetate is a liquid with a peach flavor and a bitter taste. Its odor weakly resembles mignonette. The ester boils around 203 deg. C. and it has a specific gravity of 0.832. Like its isomer, it has been suggested for use in peach and apricot flavor formulations.

*Decyl acetate*,  $\text{CH}_3\text{COOC}_{10}\text{H}_{21}$ , is a liquid with an agreeable flavor like that of pineapple, having a sour-sweet taste and a fruity odor. It has a higher boiling point than the esters mentioned above and a specific gravity of 0.891. It is soluble in alcohol. This ester is used in addition to pineapple compositions in apricot, plum, peach, and honey flavorings.

*Cyclohexyl acetate*,  $\text{CH}_3\text{COOC}_6\text{H}_{11}$ , cyclohexanyl acetate, cyclohexanol acetate, is a liquid with a specific gravity of 0.985 and a boiling point of 174-177 deg. C. It has a distinct odor resembling that of amyl acetate. This ester is a relatively new ingredient of flavors and has been suggested as a component of berry flavors and of apple and banana essences.

#### ALIPHATIC AND CYCLOHEXYL ACETATES

The aliphatic acetates and cyclohexyl acetate are often major components, at least from the point of view of volume, in the formulations in which they are used. This is in marked contrast to the aromatic acetates and particularly to the acetates of the terpene alcohols which are generally minor components from the point of view of volume in flavor compositions. These acetates will be described in a subsequent article.

### Flavored Notes

Is monosodium glutamate used as a flavor in bakery products? Monosodium glutamate, or sodium glutamate, or "mono" is a white, crystalline, solid with a peptone-like odor, a salty taste, and a strong, meaty flavor. It may possibly be used in bakery products which contain meat, like mince pie, but its greatest utilization is in dry soup mixes and in canned soups to accentuate a meaty flavor.

\* \* \*

Is sodium propionate used as a flavor in bakery products? Sodium propionate is the sodium salt of propionic acid. The principal use of this acid and its sodium and calcium salts in bakery products is for the prevention of mold growth and the inhibition of the formation of "rope." These compounds probably have little influence on the flavor of the bakery product in which they are incorporated since other components of much greater flavoring power are generally included.

\* \* \*

Reprints of a number of the articles published in this section are still available and will be forwarded as requested.—M.B.J.

### Tax-Free Alcohol Withdrawal

A bill to permit tax-free withdrawal of alcohol by manufacturers of flavoring extracts and drugs has been introduced by Representative Bertram Gearheart of California. It is H.R. 3921. A permit system would be established, and an administrative fee of \$1.00 per gallon would be paid.

# OBSERVATIONS ON Analytical Methods

I. F. PLAGGE\*

THIS is a very large and inclusive subject. It can comprise the analytical methods used in testing vanilla beans as well as those used in testing the analytical methods of the finished extract.

I do not profess to be an analytical chemist, nor a micro-chemist, nor a detective, but I may be classed as one of you manufacturers who are interested in manufacturing a good vanilla extract. It is from this point of view that I want to discuss vanilla beans and vanilla extracts.

## VANILLA EXTRACT

As part of a staff from a manufacturing firm I am interested in the most important and vital part of a vanilla extract, the ingredient that gives the flavor. Flavoring is what we manufacturers sell and use.

We all must purchase this basic product that gives us the flavor. Recently a member of the Vanilla Bean Association wondered "why this sudden interest in the problem?" There are definite reasons for our interest and I will make some personal observations along this line.

Before discussing the problem I want to tell you about one of my early experiences as a laboratory worker. I was connected with wholesale grocery manufacturing. They had a small tomato pulp and catsup plant in Indiana. I was sent to the plant armed with a microscope, mold counting cells and other equipment to examine the finished tomato pulp or catsup. After about ten days of microscopic work, I began to do some thinking about the problems. I asked myself the question, what good can all this counting of molds, yeasts and bacteria accomplish when the product I was examining had already been packed and cased for shipment? I found that I could be of greater value if I continually inspected the incoming tomatoes, controlled the inspection of the raw tomatoes and saw to it that the vegetable washing equipment was functioning as it should.

This type of control work is far more important than examining the finished product. Both control methods are necessary and the microscopic work tells one how good a job one is doing in the factory production.

We can put all the stress and emphasis on "Lead No.'s," vanillin and ash content, and still not make a good extract. The chemical analysis may be in order but the flavor poor. Of course, the "Lead No." will be an indication as to what kind of an extraction job we are doing. But what good is the "Lead No." if it can be raised by additions to the extract of foreign resins? Similarly, the vanillin content can be raised by the addition of commercial vanillin to the finished extract and avoid detection.

I am very much interested in Dr. Boyles' remarks made at last year's convention, concerning the definitions and

standards of quality and identity for vanilla extract. I am sure that he created enough interest in our problems of standards so as to cause some active thinking along these lines. Dr. Boyles has foreseen what we would all be up against some time in the near future when standards will be set up for the industry.

Some months back when the members of our Research Committee got together and discussed the important problems which we might attack, it became the joint observation of the group that we could best serve our organization by tackling not many of the complicated problems of analytical chemistry in detecting adulterations in some few extracts which might be on the market, but that we tackle with vigor one of the simple problems, seemingly, but perhaps one of the most important problems in the manufacturing of an extract.

The matter of moisture content of the vanilla bean which we all purchase seems to be very important.

Is not the flavor of an extract derived from the solids in these vanilla beans? Why then should we not be interested in knowing something about what we purchase? Is this moisture within the bean of value in conserving the flavor, is moisture the carrier of flavor, does the aroma depart as the moisture leaves the bean? These and other questions immediately are thought of in connection with the problem.

Certainly the statement that "One liter of extract should contain the flavoring constituents of 100 grams of vanilla beans removed by alcohol and water with or without the use of glycerine," will need investigation.

Making a good extract then may depend first upon the grade or type of vanilla beans we purchase. The problem of manufacturing a good extract goes back to the vanilla bean broker who supplies the beans. It has been said that a manufacturer should buy his vanilla beans from a reputable broker. The vanilla bean broker is our friend and, rightly so, he should be, but we sometimes think that we should continue the practice more often, of the saying "Let the buyer beware."

## STANDARDS FOR VANILLA BEANS

I am sure that we all are long past those days and something may have to be done about setting standards for vanilla beans, too. Perhaps the brokers should give some thought to the problem of varieties, grade and nomenclature which will be familiar to all. Perhaps the containers in which the beans are shipped should contain such nomenclature. As an example, Madagascar Comores Vanilla beans should be labeled as such and if they are Prime Grade 1, 2, 3 or 4's or ordinaries, inferiors or by some other nomenclature which our trade will readily understand and comprehend.

We are told that there are many problems connected with the brokerage business, that no two crops of vanilla

\*Bowey's, Inc., Chicago, Ill.

Abstracted from a talk presented before the 38th annual meeting of the Flavoring Extract Manufacturers' Assn.

beans are the same and that brokers have many difficulties with which we are not acquainted. But if we are to set standards for our extracts then it will be more necessary that we know more about the beans we extract.

I have brought with me today three typical bundles of vanilla beans. I am sure you will agree with me that the extract made from each one would be quite different. Still these are all Madagascar beans, we are told. The analysis of the extracts made from each of these may vary greatly. There may be definite reasons for such variation because of the type and moisture content of the beans themselves.

#### OLEO RESIN OF VANILLA

I am told that much of the oleo resin of vanilla is derived from inferior beans or other grades which are not used for extraction purposes. Such a resulting product becomes a source for competitive vanilla flavoring sales. And there is also knowledge of the use of spent beans from a poor extractor being used for re-extraction for resins. With liberal additions of commercial vanillin we have the basis of a vanilla flavoring. I cannot see how "Lead No.'s" percentages of vanillin or the ash content of such a product means very much. I am told one can purchase any kind of a combination, depending upon the amount of money one wants to spend. The oleo resin can be the dumping ground for most any type or grade of vanilla beans and with the addition of prune juice to St. John's bread and added vanillin.

The oleo resin presents a very complicated problem and my observations are that a lot of careful understanding and consideration will be needed.

I want to touch on one other phase of manufacturing of a vanilla extract. This has to do with the question of standardization of an extract made by any manufacturer. We all will admit that there will be variation in the fermenting of the beans. I understand the curing of the vanilla beans is somewhat of an art. These methods vary with the country where the beans are grown and cured. Some beans will give more color than other beans, the vanillin content varies. The Chairman of our Research Committee will report on variation in moisture content of beans and how that may influence our resulting product. Should the manufacturer standardize his extract at the completion of extraction so as to have a definite vanillin content where there is a natural deficiency?

There are many other methods used in modern manufacturing to give a better resulting product such as temperature control, and pH control. These are used to control or develop a better flavor. Methods are developed by the initiative of the individual manufacturer. Such control may give his customers a better flavor. Such methods may give him an extract which will analyze higher in resin and vanillin content.

We are primarily interested in vanilla flavor and it appears that we will need to make many observations and continue our studies of the things which enter into the final extract. No work has been done on the other flavoring ingredients other than that of vanillin from vanilla beans. This is a very important part of our good vanilla extracts. The present methods of analysis are not adequate for their determinations. There are many new tools in scientific laboratories which may help us to determine the secrets of this flavoring. By the combined effort of the Association we should learn much more.

## Prevention of Mold Growth

SUPPLEMENTING previous studies indicating that "alpha di-ketone"<sup>a</sup> had certain fungistatic and bacteriostatic properties, the Biochemical Research Laboratory of The Dow Chemical Company recently completed additional tests which definitely establish "alpha di-ketone" as an effective preservative of chocolate syrup.

Unpreserved samples of chocolate syrup were obtained from three different chocolate manufacturers. Untreated controls and samples, some containing sodium benzoate and others, "alpha di-ketone," were prepared and stored as indicated in Table I. One of the untreated control samples after being allowed to mold was used to inoculate the whole set of samples. The results of this comparative test are indicated in the following table:

TABLE I

Mold or Spoilage after 2 mos. at 30°C. (2)	Concen. (per cent) Total Wght. Basis	Preservative	
		"Alpha di-ketone"	Sodium Benzoate
Syrup #1	None	+,+	+,+
	0.025	+,+	+,+,0
	0.05	0,0,+(1)	0,0,0
	0.075	0,0,0	0,0,0
	0.10	0,0	0,0,0
	0.15	0,0	0,0,0
	0.25	0,0	0,0,0
	0.50	0,0	0,0,0
	0.75	0,0,0	0,0,0
	1.00	0,0,0	0,0,0
Syrup #2	None	+,+	+,+
	0.025	+,+	+,+,0
	0.05	+,0,0	+,+,0
	0.075	0,0,0	0,0,0
	0.10	+,0,0	0,0,0
	0.15	0,0,0	0,0,0
	0.25	0,0,0	0,0,0
	0.50	0,0,0	0,0,0
	0.75	0,0,0	0,0,0
	1.00	0,0,0	0,0,0
Syrup #3	None	+,+	+,+
	0.025	+,+	+,0,0
	0.05	+,+,0	0,0,0
	0.075	0,0,0	0,0,0
	0.10	+,0,0	+,+,+
	0.15	0,0,0	0,0,0
	0.25	0,0,0	0,0,0
	0.50	0,0,0	0,0,0
	0.75	0,0,0	0,0,0
	1.00	0,0,0	0,0,0

(1) 0,0,+ indicates that one of three samples was moldy.

(2) The samples were inoculated with mold after 4-5 weeks storage at 30°C.

The results of these experiments strongly indicated that "alpha di-ketone" is as effective, if not better than sodium benzoate as a preservative of chocolate syrup. At a concentration of 0.1 per cent "alpha di-ketone" retards mildew and in this test at 0.15 per cent molding was completely inhibited.

This would indicate that "alpha di-ketone" alone will control mold in a chocolate syrup where it is already used as a flavoring agent. "Alpha di-ketone" concentrations when used as a flavor constituent vary from .1 per cent to 1 per cent depending upon the effect desired.

<sup>a</sup>Palatone, Reg. U. S. Patent Office.

# Water-Soluble Gums IN EMULSIONS

CHARLES M. FERRI\*

ALTHOUGH the word "emulsion" in a technical sense seems to be out of place at an extract convention, nevertheless, the increased use and acceptance of emulsions in the flavor field, as well as the high cost and limited availability of alcohol, has forced a compromise in the manufacture of both types of flavor compounds. This presentation will not attempt to argue the pros and cons of either type, but will limit itself to well-founded suggestions on the proper use and evaluation of water-soluble gums in the preparation of flavor emulsions.

## STABILITY OF EMULSIONS

How many times have we picked up a compounded liquid item, particularly in the food or medicinal fields and been asked to perform a sometimes impossible task to "shake well before using"! A technical man, knows immediately that a true emulsion no longer exists; to the practical layman, one application is usually sufficient to convince his taste sense to try another source. A broken emulsion defeats the very purpose for which a mixture is compounded. Flavor, whose fine bouquet aroma and taste have been tediously blended or extracted, is almost completely lost and standardized compounding through the use of such emulsions can never be practically achieved. Since stability of emulsions is so essential to the embodiment of true flavor, it is hoped that an understanding of one of the most important phases of an emulsion; e.g., the proper use of water-soluble gums; will help in arriving at this stability.

In the remainder of my talk, an attempt will be made to answer as briefly as possible the following three questions:

1. What are water-soluble gums?
2. How to use them.
3. When to use them.

## CHARACTERISTICS OF WATER-SOLUBLE GUMS

Water-soluble gums are vegetable exudations of a colloidal nature showing complete or partial solubility in water, but are insoluble in organic solvents such as alcohol, acetone, ether and others. Most gums have one property in common; e.g., that on hydrolytic breakdown, they yield simple sugars. Hence, they are sometimes classified as polysaccharides. Their main function in flavor emulsions is the part they play as emulsifying agents. Water-soluble gums serve a two-fold purpose in giving emulsion stability. First, they form a protective coating around each particle of dispersed oil, thereby preventing these particles from coalescing and separating from the water phase and secondly, they increase the body or viscosity of the emulsions, thereby causing more resistance against rising oil particles.

\*Thurston & Braidich, New York, N. Y.  
Presented before the 38th annual meeting of the Flavoring Extract Manufacturers' Assn.

Gum Arabic, being a truly water-soluble and emulsifying gum, renders stability mainly by the formation of a protective film around each oil particle. It is used mostly in powdered form and is available in several grades. Only the best and purest powdered Gum Arabic is recommended for use in emulsions. The following properties are specified to assist one in the evaluation of Gum Arabic purchases:

*Color:* From pure white to light tan. The lighter the color, the purer the gum, provided mesh size is not too varied.

*Purity or per cent water-insoluble content:* Varies from 1/10 of 1 per cent to about 2 per cent. For use in food and flavor emulsions, the less the percentage of water-insoluble content, the less chance for interfering substances to break an emulsion. A suitable grade of powdered Gum Arabic should not contain more than 0.2 per cent of water-insoluble material.

*Acidity expressed as pH:* pH of 3 per cent solutions lies between 4.6-4.8; pH of 30 per cent solutions lies between 4.1-4.3.

*Moisture:* 15 per cent.

## GUM TRAGACANTH

Gum tragacanth, unlike Gum Arabic, is a swelling or suspending gum and depends primarily on this action in preventing the dispersed oil from coalescing and rising to the top. Although the gum is supplied in the whole forms, such as ribbon and flake, the powdered form finds widest application in emulsions because of its ease of incorporation or dispersion.

When gum tragacanth is dispersed in water, a small portion of the gum dissolves while the larger portion swells and absorbs large quantities of water. The larger the proportion of this partially soluble constituent, the greater the viscosity of a given solution, so that a measure of the viscosity is an indirect measurement of this swelling constituent.

The important characteristics, which can assist in the evaluation of this gum, are viscosity, color, pH and mesh size. All of these factors play an important part in the stabilizing qualities of gum tragacanth. Contrary to popular belief, the lighter the color of a tragacanth powder does not necessarily mean the better the quality. Uncontrolled milling of gum tragacanth to fine mesh sizes in order to lighten the color will destroy the viscosity and emulsifying power of the gum.

## GUM KARAYA

Gum karaya is similar to tragacanth in its role of swelling and emulsifying agent. It is supplied in various powdered grades, ranging from white to dark tan. The important characteristics for evaluation are viscosity, color,

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pH and bark and foreign matter content and according to the recent N. F. Specifications on karaya gum, the bark content must not be greater than 3 per cent for use in foods and drugs.

#### METHOD OF USE

The second point in question is the proper method of using these gums to obtain their maximum benefits. The following recommendations and conclusions were reached after observations of laboratory and plant preparations of flavor emulsions in the beverage and bakers' industries.

- A. Always disperse the gum or gums in the oil or blended oils with slow stirring and allow the gums to soak in the oil for 5 to 10 minutes before adding the mixture to the water solution.
- B. Use warm water in the preparation of an emulsion.
- C. During the addition of the gum-oil mixture to the water solution, keep continuous agitation in process and continue the agitation for at least  $\frac{1}{2}$  hour after all the gum-oil blend has been added.
- D. For a perfectly stable emulsion, homogenization is essential.
- E. When using swelling gums, such as karaya or tragacanth, it is recommended that the emulsion be re-stirred after homogenization to reincorporate any ingredient that may have leached out.

#### SELECTION OF PROPER GUM

The final question as to the selection of what gum or combination of gums to use in a particular emulsion is essentially one of individual taste. Some general conclusions, however, have been reached with regard to the effects of various gums in flavor emulsions. We shall divide flavor emulsions into two fields, beverage and bakers' emulsions, and give a few pertinent generalities relative to both types:

##### Beverage Emulsions:

1. The use of Gum Arabic alone with citrus oils gives the most stable emulsions. The introduction of small amounts of tragacanth or karaya for thickening purposes invariably leads to separation of the concentrate.
2. Citrus oils, such as orange, lemon or lime, must be blended with a heavy oil, such as brominated vegetable oil, to a specific gravity of 1.024 before emulsification with Gum Arabic in order to produce cloudy, ringless beverages.
3. For oils other than citrus oils, Arabic or combinations of Arabic with the swelling gums tragacanth and karaya can be used.

For a detailed description with regard to the use of various gums in bakers' citrus oil emulsions, we refer you to an article in the June, 1947, issue of *Food Industries* magazine which describes some of the work conducted in our laboratory. Some of the conclusions reached were the following:

##### Bakers' Emulsions:

1. Bakers' citrus oil emulsions prepared with gum tragacanth alone gave the most stable emulsions.
2. The blending of Gum Arabic with either gum tragacanth or karaya causes a decrease in viscosity and stability of the emulsion. The higher the proportion of Arabic used, the greater the decrease in both factors.



Associates of Dr. Alexander Katz & Co., Los Angeles, Calif. and of Essential Aromatics Corp., New York, N. Y. snapped at the recent meeting of the F. E. M. A. In the group are A. D. Mizzy, New York; Leonard and Mrs. Katz of Los Angeles; Dr. Alexander E. Katz, New York; A. E. Illes, Dallas, Texas, and Paul G. Fourman, Sr., San Francisco.

3. Gum tragacanth is the least susceptible to mold growth; 7 oz. of glycerin per gallon of concentrate being sufficient to preserve a gum tragacanth emulsion. The introduction of Arabic or karaya requires an increase in glycerin content or the addition of some preservative such as benzoate of soda.
4. In the preparation of non-citrus oil emulsions, such as cherry, strawberry, root beer and others, a wider selection of gums can be safely used with reasonable assurance of stability. A preservative, however, is recommended for the prevention of mold growth.

There is still a lot of research and developmental work ahead of us in order to change emulsion preparations from an art to a science. I am sure, however, that a knowledge of the properties and correct usage of the water-soluble gums will be a great help in achieving this aim.

#### Fruit & Syrup Mfrs. Assn.

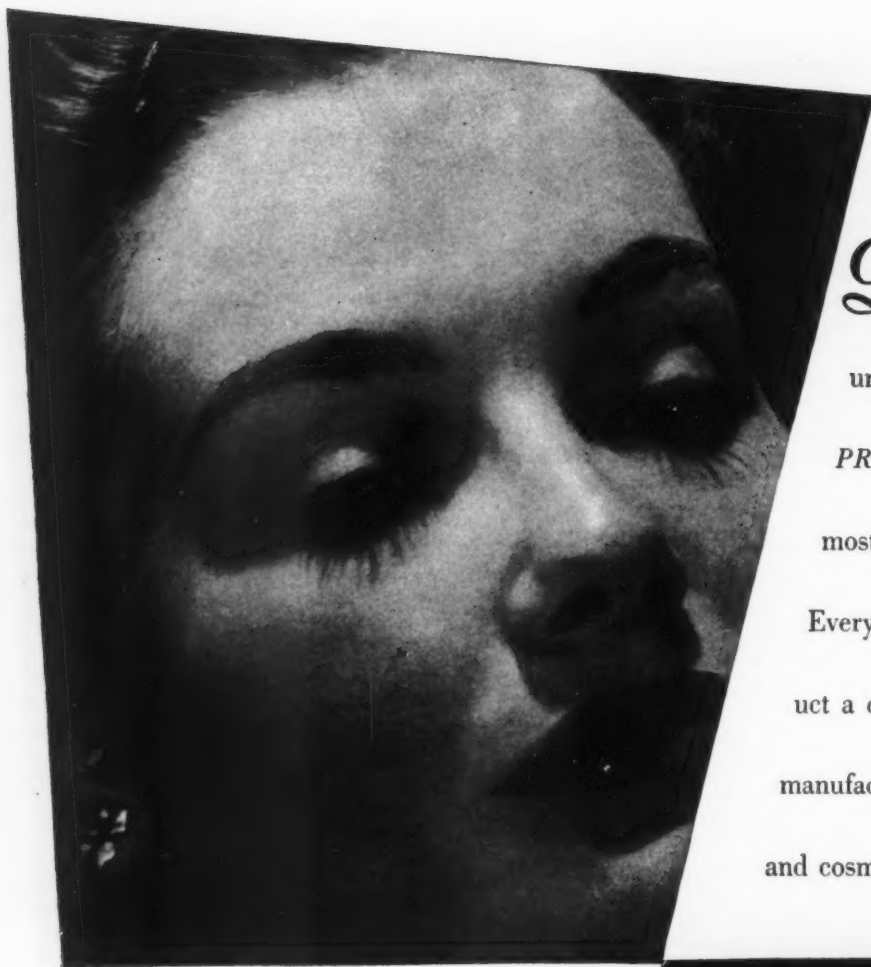
New officers of the Fruit and Syrup Manufacturers Association are: President, Ira S. Brightman, H. Baron & Co., Linden, N. J.; Vice President, Arthur C. Beall, the C. M. Pitt & Sons Co., Baltimore, Md.; Secretary-Treasurer, Fred W. Hewitt, Richardson Corp., Rochester, N. Y., and Corresponding Secretary, John S. Hall, Chicago, Ill.



Ira S. Brightman

Delegates at large are: G. Y. Sawyer, the Murray Co., Boston, Mass.; A. I. Straus, Jr., Cincinnati Fruit & Extract Works, Cincinnati, Ohio; O. F. Petran, Henry & Henry, Inc., Buffalo, N. Y.; B. R. Murphy, Nesbitt Fruit Products, Inc., Los Angeles, Calif.; George M. Chapman, Liquid Carbonic Corp., Chicago, Ill., and R. A. Simonet, Robert A. Johnston Co., Milwaukee, Wis.

Mr. Brightman, the newly elected president has served the association as an officer for years and the association is fortunate to have as its guiding director in these critical times a man of his experience, judgment and executive ability.



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# SOAPS

## Medicated and Cosmetic Soaps

*The composition of medicated and cosmetic soaps and the*

**S. ALPERIN** *effects of soap on the skin are presented\**

**T**O produce a special purpose soap it is necessary to have a clear picture in mind about the properties which are to be attained and the properties of the raw materials from which the soap is to be produced.

In this article practical working formulas and methods are developed from these basic considerations.

### THE EFFECT OF SOAP ON THE SKIN

Before going into detail about the composition of medicated and cosmetic soaps it would be of interest to summarize recent investigations on the effect of soap on the skin.

Often suspicion is aroused by reports of the dangerous effect of soap on the skin. These reports are usually about dermatitis caused by strong alkaline industrial soaps, solvent or abrasive soaps and are not about the effect of a properly produced toilet soap on normal skin.

It shall not be overlooked that toilet soaps may actually have a harsh effect on the skin of sensitive persons, if the fat charge of the soap were composed mainly of coconut oil. It is a well-known fact that pure coconut oil soap has an irritating effect on the skin. This irritation is enhanced if a liquid potassium coconut oil soap is used, and not a sodium soap in cake form. J. Davidsohn and A. Davidsohn<sup>1</sup> ventured the explanation that as pure coconut oil soaps form genuine solutions in water and not colloidal solutions as most other soaps, the penetration of this genuine solution through the outer layers of the skin, which otherwise act as a kind of diaphragm for colloid solutes, may cause the phenomenon of skin irritation observed with coconut oil soaps.

This explains the fact that liquid soaps produced from potassium coconut oil soap are even more irritating than sodium soap in cake form because potassium soap in solution is even less colloidal than the corresponding sodium soap.

The addition of ingredients to liquid soap, which somewhat enhance the colloidal character even of potassium coconut oil soap, is to be recommended. Thickening agents, cellulose esters, such as methyl—or ethyl cellulose, etc., or the addition of the so-called "carbowaxes" are valuable in this respect. They act as a kind of protective colloids.

The irritating effect of coconut oil soaps was soon recognized as an established fact and the next important step was to test combinations of coconut oil soaps with other soaps.

Here we have the results of experimental work carried out by M. W. McKinney and L. D. Edwards<sup>2</sup> (sponsored by the Procter & Gamble Co., Cincinnati).

These authors carried out patch tests with binary soap mixtures on the skin of male and female persons. The conclusions of these experiments were:

- (1) Sodium laurate-sodium caprylate mixtures appear to be highly irritant to the skin of both sexes,
- (2) sodium ricinoleate binary mixtures with sodium laurate, sodium caprylate and sodium oleate show a definite irritant action on human skin,
- (3) sodium linoleate binary mixtures with sodium laurate, sodium caprylate, and sodium oleate indicate a decreased irritant action,
- (4) sodium laurate-sodium myristate binary mixtures tend to be much less irritant to the skin than can be predicted from their respective irritant powers.

From this work and our own observations we venture to

\* This article will be continued in the August issue of THE AMERICAN PERFUMER.

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draw the following general conclusions which may serve as a practical guide for the soap maker.

Those soaps which are forming true or almost true solutions in water are more irritating to the skin since they are not only active on the surface of the skin, but are passing into the deeper layers where they actually may perform changes in the deeper skin cell. This fact is enhanced by the observation that salts present are adding to this skin irritating effect. Maybe their presence gives active help to the lower molecular soap solution to pass through the cell membrane. Soaps of higher molecular fatty acids are more colloidal in aqueous solutions. The larger colloid soap particles are retained by the membrane of the skin cell and are thus preventing the entrance of molecules of lower molecular fatty acid soaps which otherwise would enter into the inner cells. Thus it is a toilet soap built up from higher molecular fatty acids (e.g., with a fat charge built up from tallow, lard and the common vegetable oils as olive oil, peanut oil, etc., or their hardened derivatives) which gives true protection of the skin, even if the necessary percentage of coconut oil or palmkern oil is present in the fat stock to give quick foam and better solubility.

It is beyond the scope of this article to give details of earlier works on the irritating effect of soap, but it seems to be an established fact that neither the hydrolysis of soap solutions nor traces of free alkali of toilet soaps are responsible for skin irritation. It is the character of a common soap as a colloid which precludes the irritating effects on the skin of normal sensitive persons. Only if higher percentages of coconut oil are used within the fat charge a harsh effect may be caused. But higher percentages of coconut oil in the fat charge of *milled* toilet soaps are excluded by other, technical reasons: difficulty in milling, high salt content of soap and brittleness.

It must be pointed out that even pure coconut oil soaps (e.g., cold manufactured soaps) may be prepared so as to minimize their harsh effect. This is usually done by *superfatting*.

#### SUPERFATTED TOILET SOAPS AS COSMETIC SOAPS

Here a word in favor of superfatted toilet soaps in general must be put in. Not only does a properly selected superfatting agent compensate the de-fatting effect of soap on the skin, but in the case of coconut oil soaps the finely dispersed superfatting agent enhances the colloidal structure of the soap solution. From the above facts and observations it appears evident that this is actually a great advantage.

Technically superfatting agents have other advantages as well. J. Glenn<sup>3</sup> enumerates the following:

1. The presence of saponifiable superfat insures neutrality.
2. Certain agents reduce the tendency of milled soap to split or crack in use.
3. The process of milling and plodding is often made easier as the soap is rendered more plastic.
4. The lather produced is usually smoother and closer, and the tablet in use has a velvety feel superior to a straight soap.
5. The superfat agent can act as a solvent or excipient for medicaments or other additives to the soap.

The early proposals by Unna in the beginning of this

century to leave over 1-4 per cent unsaponified tallow or olive oil, which turned the soap rancid, somewhat discredited superfatting among soap technologists. But there exist superfatting agents which do not readily become rancid or are even immune from rancidity, e.g., Vaseline. The latter substance, as it is unsaponifiable, makes it possible even to superfat toilet soap containing the permissible amount of free alkali without neutralizing it. It should be born in mind that a toilet soap—superfatted or not—should first be prepared so that it contains a certain amount of free alkali, of course within the maximum limits laid down in specifications. If the superfatting agent neutralizes the free alkali, it is still not the same as if the soap were not alkaline enough *before* the superfatting agent was added. If these precautions are taken, rancidity is less likely to occur.

Superfatting agents may be of a fatty type—saponifiable and unsaponifiable, or waxes which are partly saponifiable.

Here is a list of such additives:

- Lanolin (partly saponifiable)
- Fatty- or wax-alcohols, e.g.
- Lanette wax (unsaponifiable)
- Ethyl alcohol (unsaponifiable)
- Vaseline (unsaponifiable)
- Lecithin (saponifiable)
- Stearine-methyl-ester (saponifiable)
- Walrat (partly saponifiable)
- Turtle oil (saponifiable)
- Beeswax (partly saponifiable)
- Turkey red oil (saponifiable)
- Cholesterol and oxycholesterol (unsaponifiable)
- Hardened castor oil (saponifiable)

It should, of course, not be understood that the superfatting agents which are saponifiable should be saponified, on the contrary, in this case they would loose their effect as superfatting agents. (Lanolin is an exception.)

Other "superfatting" agents are non-fatty in their character, e.g., glycerine-starch, starch, milk powder or caseine, but they are less important.

<sup>1</sup> J. Davidsohn and A. Davidsohn, *Soap Perfumery and Cosmetics* **10**, 836 (1937).

<sup>2</sup> M. W. McKinney and L. D. Edwards, *Oil & Soaps*, **23**, 198-200 (1946).

<sup>3</sup> J. Glenn, *Soap and Sanitary Chemicals* **15**, No. 9, 21-24, 70 (1939).

#### Soap Export Allocations

The U. S. Department of Agriculture has announced export allocations and exchanges during the week ending June 20, 1947, of 250,000 pounds of laundry soap (95,000 pounds fat content) to Haiti to cover the quantity of coconut oil foets lost by Haiti as a result of an exchange of that country's copra allocation to the United States for coconut oil.

Laundry soap for Australia was transferred in the amount of 5,986,800 pounds from a Production and Marketing Administration to a commercial allocation to permit Australia to lift this quantity commercially.

#### Lever Brothers Cuts Prices

Lever Brothers Co., Cambridge, Mass., announced a cut of 5 per cent in soap prices, effective June 18. This reduction is in addition to a cut of 10 per cent in price of the company's major soap products which became effective April 23.

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# WASHINGTON PANORAMA

by ARNOLD KRUCKMAN

THERE is little doubt that the Federal Trade Commission will issue the first draft of the proposed trade practice rules for the toiletries and cosmetic industry during August. Undoubtedly Director Henry Miller, who heads the Division of Trade Practice Conferences, will send the outline broadcast among the industry and to the trade, and will have it published so it may be examined by the consumer.

## TRADE PRACTICE RULES

It is customary for the FTC to promulgate the tentative version of the rules a month or more before the public hearing takes place. These hearings are usually held in the Capital. They are given plenty of publicity. This hearing unquestionably will be invested with every facility to enable the public to know what it may all be about.

It is understood here informally that the public hearing will be held either late in September, or early in October. The long gap between the New York hearing and the public hearing is due to representations by members of the industry. They have convinced the FTC that Summer is not a good time for such hearings because the majority of the persons who may wish to participate either are on their vacations, or are engaged in the trade activities that especially are identified with the Summer season.

Meanwhile it is understood here that business generally, and trade in toiletries, cosmetics, and perfumes specifically, is showing a healthy if not sensational improvement. They tell us here that consumer demand is particularly brisk in creams and makeup as well as powders and perfumes. Some of this is ascribed to seasonal conditions, and some of it to the rather startling fact that over a million women recently have left their homes and gone back to work.

The end of the increase in employment of women is not in sight. The Department of Labor has found informally that in almost every industrial region women are clamoring for jobs to the tune of 200 per cent to 500 per cent more than were making applications in early Spring. Not much is said about it, but there is a considerable increase in the employment of women and men in the plants that are producing more material which may be useful in war. Also, there is much increase in certain types of activity connected with export. Government calculates that every billion dollars' worth of export mer-

chandise directly is responsible for the employment of a million persons, and indirectly puts at least 6 to 10 times as many more at work.

The word in the Capital is that the increased retail demand for toiletries has caught some vendors without adequate stocks, and has impelled them to expand the lines they will carry. From reports received here it appears that many retailers and other distributors have allowed their variety to shrink, and they are making efforts to make the variousness of their offerings more diverse. It is interesting to note that very recently the shops in the Capital markedly displayed types and brands that hitherto had been very difficult to obtain.

Incidentally, the FTC has been conducting a survey to determine levels of consumer commodity prices, the investigation including some goods embraced by the toiletries and cosmetics industry, particularly basic materials. Telegrams were sent requesting reports concerning wholesale and retail resale prices named in fair trade contracts in effect April 1, 1946; January 1, 1947; April 1, 1947, and May 15, 1947. If the prices were not fixed by contract on the specified dates, it was requested the suggested wholesale and retail prices be reported; also changes in discounts to retailers and wholesalers between April 1, 1946, and May 15, 1947. The FTC has authority to conduct such survey, and to require compliance to its demand for information, under Section 6 of the FTC Act.

## CONGRESS AND FOREIGN RELATIONS

Congress is not expected to adjourn toward the end of July, but it is anticipated it will declare a recess. The idea is to leave the Congress in the position so it may come back at any time, under its own steam, at the call of its leaders, rather than to leave the initiative, for a special session, to the President. It can hardly be called a secret that the President definitely has the idea that it will undoubtedly be necessary to call Congress back in early Fall to devote an extra session solely to discussion and determination of the foreign problems.

The feeling here is that the numerous phases of the foreign situation and solution can only be worked out by a continuous session, with no other subject under consideration. Congress itself is inclined to think that it must put itself in the position of being in continuous session, with short recesses for relaxation and trips home to get

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a fresh perspective on national and international affairs.

The Greece-Turkey enterprise is now actively under way. The organization has a top echelon of 175 chosen people. State Department is in charge of organizing and of implementing the organization. The personnel of this organization, and of the larger organization which will come into existence when the larger program is activated, is important to your industry. The people in charge in foreign countries will have a very powerful influence upon the trade trends, the supply of raw materials which may come out of these countries and where they may be permitted to go. It has heretofore been the custom of our people overseas on such assignments to bend over backward in the effort to give the other countries more than a fair share of the commodities that might be available. Congress now has the quaint idea—growing rapidly—that we should see to it that whatever there may be, in the places which benefit by the expenditure of our billions, should come to us first, and in such volume, and so long, as we think we want it. There is a list of raw materials, assembled by the Committee in the Senate headed by Senator George W. Malone, of Nevada, all of which are almost non-existent in the United States, or are very scarce. Some of them have a very definite bearing on your industry. It is the idea that for loans, or credits, we extend, we should be repaid in the raw materials we need.

The State Department hangovers of the hectic days of the New Deal, however, are opposed to such program. The opposition is based on confused and complicated reasoning which it would take too much space to explain.

Julius G. Schnitzer, Chief of the Textiles Division of the Bureau of Foreign and Domestic Commerce, who recently went to Europe on a quickie to see what the prospects may be over there as related to our general economy, comes back with a rather gloomy picture. His report is not yet available, but he makes it clear that the consumer has no money, and he cannot find anything he wants upon which to spend the little money he may have. Schnitzer visited Berlin, Frankfurt, Linden, Offenbach, Stuttgart, and Bremen, in Germany, and Paris and its area. The Germans are chiefly producing textile soft goods and a negligible quantity of small goods. They are compelled to export 80 per cent of this production to help pay the occupation costs; the other 20 per cent gives them a very tiny dribble of supplies. They have practically no raw materials.

He found practically no toiletries or cosmetics in Germany worthy of the name; none are being imported in a sense sufficient to warrant comment. Yet, he found that the women of Germany are much more chirpy and pugnacious than the men. He says the youngsters manage somehow to give the appearance of being supplied with some of the aids to a woman's vanity despite their lack. He describes Paris and its immediate area as almost untouched in appearance by war. But in common with the rest of Europe he finds behind the facade of snappy bearing among the French a weariness, and an edginess, that is obviously full of potentials.

#### CHEMICAL SUPPLIES IN INDUSTRY

Harry L. Derby, of the Army-Navy Chemical Advisory Committee, recently pointed out that any part of the American economy involved in chemistry should be prepared for a war effort in order to keep the peace. He suggested

that aside from the toiletries, cosmetics, perfumes, soaps, and flavors industries, there are 69 other leading industries in America which depend upon chemical supplies for their essential materials. To give point to his comments he drew attention to the fact that Russia is in possession of the newest and most modern of the German chemical plants which are being operated with forced and slave labor, as a nucleus for a powerful war machine. Mr. Derby and other members of the American Chemical Society have protested against the discontinuance of the Office of Technical Services, which would be avoided by the enactment of the Fulbright bill, which seeks to make the OTS permanent.

It was reported here early in June that 1,250,000 gallons of ethyl alcohol, offered by the U. S. Government on behalf of a Cuban seller, could find no buyer. The lack of interest was attributed to the fact that the prospective buyers were expected to make competitive bids. The present alcohol supply is reported here as adequate, with enough for all essential needs, but no surplus.

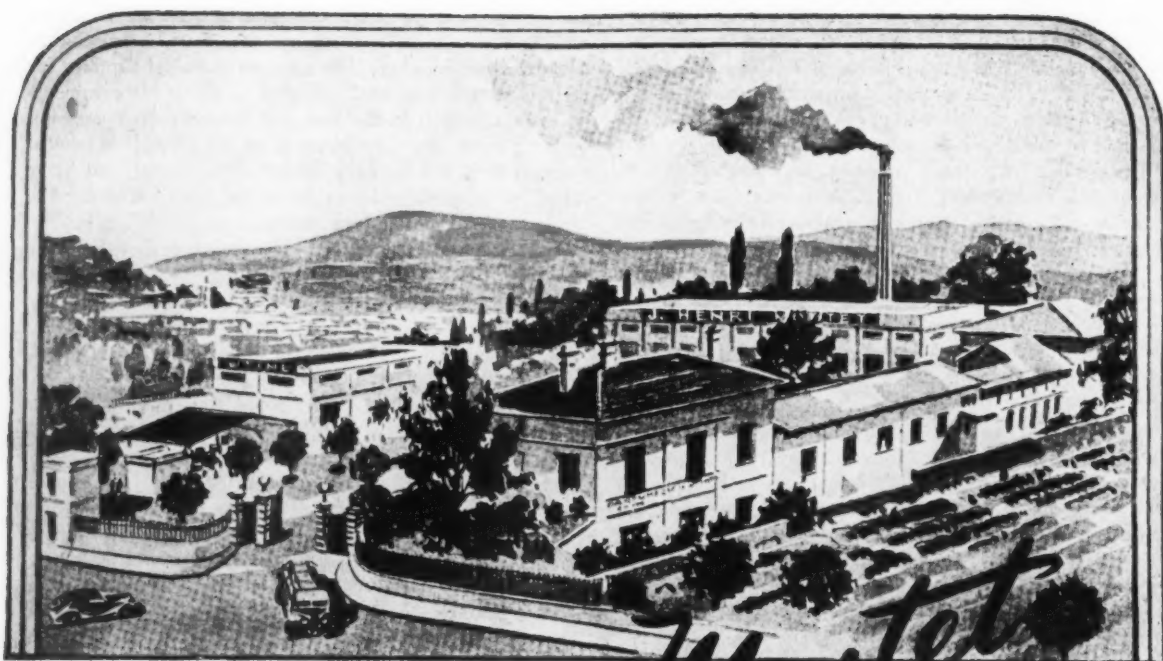
Sugar allotments for industrial users are expected to be increased before the controls over rationing and pricing are entirely removed by October 31. The extent of the possible increase has not been divulged. In the Capital the sugar specialists fear that the supply has not yet been fixed on a stable basis, and that recent actions modifying controls were dictated by political competition between Agricultural Secretary Anderson and the Congress. The Secretary removed household controls in order to beat the Congress to the draw.

#### TALC DEPOSITS

The Senate Committee headed by Senator George W. Malone, of Nevada, which is investigating the facts about our natural resources, at a recent hearing brought on record the statement from various witnesses that importations of talc from Italy, France, Australia, and Manchuria threaten to close down most of the American talc mines and processing plants. One witness revealed the Italians can ship talc to New York for \$30.00 a ton, including tariff, freight, and all handling charges, while it costs Western talc producers \$50.00 a ton to bring the commodity to New York. The American witnesses insisted we possess abundant talc for the needs of all the industries in the United States.

The citronella industry in Ceylon is now disorganized. The word has come through from U. S. Government representatives in India. Part of the trouble is due to the fact that Ceylon no longer is the chief supplier for the American market, and has a shrunken market in British customers. Government control of the export material, the establishment of a cooperative marketing system, and cooperative distilleries, all have been suggested. Ceylon has upwards of 40,000 acres in citronella grass, which is harvested two to three times a year. The average yield is 70 pounds oil per acre. The Singalese operate on land running from 1/2 to 300 acre plots. The average runs from 1/2 to 1 acre. Ceylon has approximately 400 citronella distilleries.

U. S. Commercial Company in June offered 80 tons Japanese refined camphor in tablet, slab and powder form, as well as 1,200 cases of Japanese menthol crystals. The U. S. Commercial Company announced it would import ginseng from Korea if the demand warrants the action.



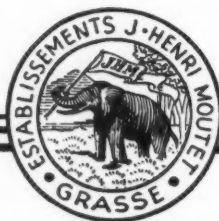
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# NEW PRODUCTS AND PROCESSES

## pH Meter

Unique design and rugged construction are features of the new industrial model direct-reading pH meter manufactured by the Cambridge Instrument Co. It may be used as a bench model or as a portable instrument. Its weight of only 10 pounds and the mounting of the electrode system as an integral part of the meter make it convenient to carry. Operation is from any 110 volt 50 or 60 cycle A.C. outlet. A voltage regulator corrects for fluctuations from 100 to 130 volts. It is stated that compensation is automatic for variations of from 0 to 100 C. in solution temperatures and for changes in room temperature. Accuracy is said to be .10 pH over the instrument's full range of 0 to 14 pH.



Cambridge pH indicator

## Bleaching Clay

Adsorbol, a new bleaching clay not previously distributed in this market, is being offered by Innis, Speiden & Co., 117 Liberty St., New York, N.Y. Adsorbol is an adsorption clay which is available in both the natural and activated state. Full information and prices are available upon application to the company.

## Parcel Post Scale

A completely automatic, computing parcel post scale has been announced by Detecto Scales, Inc. This Detecto Post-O-Meter scale, with a capacity of 70 pounds and a sensitivity down to 2 ounces, enables the operator to weigh parcels with accuracy and to eliminate over-postage losses. A patented shock absorber mechanism cushions the fall of the package. Computation of the correct postal charge is made by simply pressing down the lever associated with the postal zone to which the package is addressed.

## 2-Ethylhexanediol-1,3

2-Ethylhexanediol-1,3, a newly available high-boiling, non-volatile glycol, is now being produced in commercial quantities for general chemical application, according to an announcement by Carbide and Carbon Chemicals Corp. It is the first glycol of limited water solubility

to be produced on an industrial scale, according to the announcement. It is suggested as a new ingredient in cosmetics. This glycol has a viscosity between that of ethylene glycol and glycerol. It may be used in the preparation of new types of emulsifying agents and perfume fixatives.

## Corrosive Solution Utensils

A line of unbreakable utensils for handling acids, alkalis, and other corrosive solutions has been announced by the Automotive Rubber Co. Manufactured of reinforced perforated metal, the utensils are completely covered with a  $\frac{1}{4}$ " seamless rubber coating that protects them from the action of chemicals. Coatings of soft or semi-hard natural rubber or synthetics may be had.

## New Catalogs

The Solvay Process Co. has announced a new booklet on nitrosyl chloride which will be of value to individuals or organizations interested in research. In addition to chemical and physical properties, this booklet describes the new all nickel cylinders and fittings which have been developed for storing and shipping nitrosyl chloride. It gives information on handling, laboratory preparation, safety measures and typical industrial applications. Also

included are charts, sketches, a bibliography and patent reference designed to assist technical and research men responsible for new chemical developments. Copies may be obtained from the company.

Florasynth Laboratories, Inc., 1315 Olmstead Ave., New York, N. Y., has issued its newest wholesale price list, a complete 28-page booklet covering an extensive variety of flavoring, aromatic and essential oil materials. Florasynth Laboratories is the representative in the U. S. and Canada for Schmoller & Bompard of Grasse, France.

Consolidated Products Co., Inc., 15 Park Row, New York, N. Y., has issued a large folder depicting officials of the company, warehouses and repairing shops, machinery in process of repair, etc.

Fritzsche Brothers, Inc., 76 Ninth Ave., New York, N. Y., has issued a new wholesale price list.

A new edition of Lab-Scents has been printed by Aromatic Products, Inc., 15 East 30 St., New York, N. Y.

The Columbia Chemical Division of the Pittsburgh Plate Glass Co. has issued a series of folders on: Caustic soda, soda ash, caustic ash, modified sodas, cleaner and cleanser, liquid chlorine and sodium bicarbonate. Copies may be obtained upon request.

How to Engineer Corrugated Shipping Boxes, is the latest addition to the series of reference handbooks published as a service to industry by the Hinde & Dauch Paper Co. The complete set of booklets, all of which have been revised, include the following titles: How to Seal Corrugated Shipping Boxes, How to Stack and Load, How to Merchandise with Corrugated Shipping Boxes, How to Use Color, How to Ship More Economically, How to Ship by Air Express, How to Specify Corrugated Boxes, How to Engineer Corrugated Shipping Boxes, How to Prepack in Corrugated Shipping Boxes and How to Select Vending Displays that Increase Sales. The series may be obtained without charge.



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A compendium of significant news and views

## Harold Hutchins says . . .

### THIN ICE STUFF

Hormone creams for the ladies past thirty-five are with us again. Our own personal opinion is that this is treading on thin ice, but the stuff does make its reappearance regularly. We wonder what happened to all of those lawsuits of a decade ago, when name-calling, and more, attended the campaign to make all women conscious of hormones? By the way, has anybody traced hormone, or other, application to the human non-hairy skin by the isotopes—radioactive substances available to the scientists?

### YOU'RE INVITED

The doctors have had their Centennial and a special stamp was issued by the United States Post Office Department to commemorate the event. Now suppose—just suppose—the opportunity were given to you to propose the theme for a stamp for cosmetology, for perfumery, for pharmacy, and for any other branches of our industry, what would you give as the theme for each, or for all? Your suggestions on a post card are invited.

### NOT GENERALLY KNOWN

In 1869, Professor Charles F. Chandler, as chemist to the Department of Health, City of New York, turning his attention to cosmetics sold in the city, examined hair tonics, washes and restoratives for any injurious matter. He found a considerable amount of lead. After a year of work, he offered publication of poisonous cosmetics as a means of diminishing the evil to a great extent.

### HCOL TO DROP?

Eleven leading economists have predicted a decline in the cost of liv-

ing during the closing half of this year. The prediction was made recently at a meeting of the Conference Economic Forum, a group connected with the National Industrial Conference Board.

### JUST THE BEGINNING

Way back when we were giving you gentle readers hints about a "wonder drug" for the treatment of tuberculosis, it was a closed secret. But now the silence is broken and, of course, it was streptomycin. We were kept in the dark about the actual nature of the stuff but—boy—it sure did arouse interest. How new names slide from the tongue and typewriter, such as streptomycin, penicillin, sulfonamides and what have you. And the beginning is not yet!

### THEN AND NOW

A dozen cases of smallpox and several resulting deaths in that big city prompted us to do some checking. We found that in the winter of 1874-1875, in a city much smaller than now, there were 2000 cases of smallpox reported! A few years earlier, 1871, there were 3000 cases of smallpox reported in New York City.

### NOT TRIVIA

That cosmetics give individuals a feeling of well-being is pointed out by Dr. Herman Goodman, well-known New York dermatologist and medical economist, who advises that cosmetics are used by millions of people, performing the valuable function of giving the patient a feeling of well-being. Such apparently trivial physiological problems as acne, baldness, wrinkles and dry skin can no longer be discussed lightly by the medical profession, because the patient turns to the beautician for advice.

### WHAT A GUY CAN READ

Andrew Jackson (1767-1845), elected to the Presidency of the United States in 1828, was the first occupant of the historic White House to have running water in the kitchen and shower. He was the seventh president. George Washington and others bathed in the creek or, in cold weather, utilized water troughs filled by carrying the fluid from the open hearth. A bath was installed for the thirteenth president, Millard Fillmore (1800-1874), when he came to office on the death of President Taylor, July 5th, 1850. For the next 40 years, the White House had one bath tub. In 1894, Grover Cleveland (1837-1908), having been the 22nd president, demanded a second bath tub when elected the country's 24th. And that's only 50 years ago! Rumor—and base rumor, no doubt—hath it that the city of Boston gave the private bath a cool reception in 1845. 'Tis said that a physician had to prescribe the thing. Otherwise 'twas illegal. The old language comes from perusal of the ancient texts. Bath tubs were introduced into new buildings, designed for occupancy, in Philadelphia, by the Stephen Girard Estate in 1832. But what a furor was raised by the people—the very ones for whom these tubs were intended!

### MIXED BABIES

Did you read about the mix-up of babies that was supposed to have occurred in a large city hospital? The mother said it was a girl, and the birth certificate said it was a girl, but she was given a boy to take home with her! It was all a mistake, said the hospital. Now comes the State of Louisiana with a scheme—the mother must sign the birth certificate. Good going and more states are certain to follow.

**ANYBODY TELL US?**

We have always wondered who cuts our own barber's hair. We still wonder. And we wonder if he has to pay to get his hair cut. And we wonder if he always gives a tip and how much? And we wonder where all those stove pipe hair dryers went to. Anybody have a shop with one of them?

**1947 LOOKS GOOD**

Sales of the leading drug manufacturers this year will probably exceed the 1946 record, while cosmetic sales may recede, states a Standard & Poor's industry survey of the drug and cosmetic field. While higher costs of raw materials and increased expenses may narrow profit margins slightly in the drug industry, according to the report, the probable larger volume should maintain earnings.

**STILL SCANT**

The improvement in essential oil supplies during 1946 replenished some of the bare stocks and restored to the trade a number of oils and absolutes which, prior to the war, came from the Far East and Europe. But the carry-over of inventories, at the close of last year, reflected continuing shortages and limitations. Demand in this country was maintained in good volume and the backlog of requirements of manufacturers absorbed most of the gain. Indications point to a higher level of buying in 1947, and the improvement expected in foreign materials, resulting from better shipping facilities and freer availability.

**NEW CLASSIFICATION**

General medical practitioners seek the same recognition that is accorded their fellow medics, with specialty designations. Hence, look for a Board of General Practitioners. It's been a long time coming, but it will not be long! And the guys seeking some form of insurance, or, as it's called, prepayment plan medicine, will also have their innings. The universities will start the ball rolling, and will the docs around the country be far behind?

**HOW ABOUT COSMETOLOGISTS?**

Where does this leave the cosmetologists? And the pharmacists, too? In the ashcan, according to more than one so-called economist. But the medicos are the weakest and they can't fight back. Do you think a doctor would go on strike and refuse to

visit the sick, or treat the ill, or operate on a ruptured appendix? You may think so—but the medics don't.

**WHAT GIVES HERE?**

More and more foundations are springing up for the study of disease. When will this industry of ours become wise and have a few foundations for the independent studies of our products and our resources for research? We bet it could be started at any one convention, and the legal boys would fix it for being deductible from taxes. Remember, pay the taxes and the man with the whiskers does the research—plow those taxes into community research for the industry and it is controlled where it will do the most good, or the least harm! Nuf said, but we have said something like this before, and no dice! What gives here?

**CATIONIC SURFACE AGENTS**

Those cationic surface acting agents have something! We wonder if the pharmacy schools and the medical schools are hep to them? Have you seen any good articles on the subject in any professional journal? Do any of our readers have any dope on them that they could dispense to us? If so, please send it along, but be brief, of course!

**TEACH DOCTORS PHARMACY**

When will those universities having schools of pharmacy and colleges of medicine arrange to have courses for future medics in their pharmacy schools? Certainly, prescription writing and drug therapy should be taught by the experts in the school of pharmacy. It might even improve the relationship between the two professions. And why not an evening school for practicing physicians, in our pharmacy schools, to help them keep abreast of these two important phases?

**ODOR vs. COLOR**

The close association between odor and color, says the June issue of *The Givaudanian*, has long been observed, and it is perhaps not surprising if this affinity could be extended to show that preferences and popularities of odors and of colors seem to go hand in hand. Although there is a considerable amount of psychological literature on odor preferences and on color preferences, concludes the article, the correlation of these two factors has been largely overlooked, which presents a challenging field whose results might be as significant for the perfume industry as for the psychologist.

**GLUE HOLDS 200 TONS**

A new plastic glue capable of supporting a 200-ton locomotive is the latest. The glue, developed in an industrial research laboratory, may be used on wood, cloth, leather, rubber, paper, china and plastics. Under suitable conditions, it can be used in temperatures varying from 300 degrees above zero to 60 degrees below.

**WHAT NEXT?**

To regulate the correct concentration of "soapless soap" in water solutions, a new electronic dispenser has been developed for dish-washing machines.

**HERE'S YOUR HAT!**

Some Americans think they think foreign political systems are better than ours. We'd be more convinced of their sincerity if they would only make some effort to settle in those other countries. Why don't they take out their citizenship papers in those other lands? In fact, we'd be all for our government providing free boats for all folks who want to leave. We'd be even willing to go so far as to help shove some of them aboard ship. But, we will bet you the boats would sail away empty most weeks, because a lot of that "foreign" talk is just big talk!

**SALT STILL BASIC**

Salt is just as basic a commodity today as it was in the days of the ancients—if not more so. The average person in the United States eats about six pounds of salt per year and uses 190 additional pounds in his clothing, in freezing foods, and in keeping on his feet on icy streets—to mention a few of them.

**TEEN-AGER MARKET**

In a survey in which more than 16,000 teen-agers between the ages of 13 and 17 took part, results showed that cosmetics used regularly, in the order of their popularity, were as follows—deodorant, lipstick, hand lotion, toilet water or cologne, face powder, nail polish, cleansing cream, cream for skin care, perfume, depilatory, leg make-up, rouge and cake make-up. Shampoo was not listed in this group, because it was not listed as a cosmetic. According to the survey, however, 96.4 per cent of the teen-agers questioned wash their own hair—86.5 per cent weekly—and favor liquid shampoos, with cream shampoo rating second. The survey also revealed that more of these teen-agers buy their cosmetics in drug stores than in any other type of outlet.

**20th CENTURY STUFF**

According to recent reports of the Twentieth Century Fund, the total assets of 40 major chemical companies were over \$2 billion in 1939, with 3 companies accounting for about 64 per cent.

**EARNING POWER**

Real earning power comes out of service to the public—and there isn't any substitute for it. It can't come out of strikes. It can't come from unprofitable operations. It can't come out of high prices, or out of pay for no work done. Real earning power comes out of a working harmony between the man who invests his savings to buy the machinery, the man who directs the company's operations, the man who uses this equipment to speed his work, and the consumer who buys the product. It's time for both labor and management to stop and study which side their bread is buttered on. The tragic fact of this age is that labor and management have become so busily engaged in disputing the terms of the division of what is produced that they have no time or mental energy left to think of the importance of production itself.

**HUMAN RELATIONS**

Human relations came first with Monsanto Chemical Co. in the recent Texas City disaster. Without quibble or red tape, the company initiated steps to: (1) Pay \$1,000 cash to widows or dependents, in addition to what they will receive from insurance policies. (2) Set up a \$500,000 fund for further aid. (3) Pay funeral and hospital costs not covered by insurance. (4) Pay full wages, less workmen's compensation, to those injured. (5) Move widows and dependents "back home." (6) Repair damaged homes.

**PUBLIC IS BOSS**

In our democracy, it is the clear-cut responsibility of all groups to serve the public interest. Three groups that the public depends on for essential services and their future welfare are business, labor and government. There isn't any question that these three groups can do a better job for their boss—the American public—if they work out a common understanding with each other of what this country's peacetime job is, and how the public wants it done. Standing beside the public, "big business," "big labor," and even "big

government" stand less than knee-high. The public will never be impressed by how big its servants are. But it does—desperately—want those who serve it to give all business a chance to grow; to give all American workers, organized or not, the chance to hold any job they can handle; and give our country all that American enterprise and elbow grease have to give.

**REDUCES PRICES**

Price reductions in two important groups of industrial chemicals, used in a wide variety of products, including detergents, antiseptics and cosmetics, were announced last month by the Du Pont Co. The cuts, on higher fatty alcohols and fatty alcohol sulfates, range from 3 to 12½ per cent, and are now in effect. The company said the reductions reflect the trend toward lower prices, particularly those in the fats market.

**WINTHROP EXPANDS**

A 70 per cent expansion in physical size since 1946 of the packaging department of Winthrop Chemical Co. has been announced. Additional floor space for the handling and packing of their pharmaceutical specialties is currently being provided in the recently-opened ampul building at Rensselaer, N. Y. At the same time, packaging supplies have already been moved into the company's new warehouse, only 30 per cent completed.

**FTC STIPULATION 7608**

R. Gerber and Co., 648 West Randolph St., Chicago, entered into a stipulation with the Federal Trade Commission to cease and desist from representing that a shampoo which does not contain olive oil to the exclusion of all other oils is an olive oil shampoo. The inhibitory provisions of the stipulation do not apply to the brand name, "Gerber's Shampoo with Olive Oil."

**REPORTS ON SULPHUR**

A Federal Trade Commission report on "The Sulphur Industry and International Cartels" was transmitted to Congress last month. A 17-page summary of the report may be obtained from the Commission while the supply lasts.

**\$7½ MILLION EXPANSION**

Tentative plans for an extension program costing approximately \$7,500,000 were outlined in a proxy statement mailed to stockholders last month by the Pennsylvania Salt Manufacturing Co.

**NEW ANTU RULINGS**

Wider use of ANTU, the new rodenticide developed by the OSRD during the war, in cooperation with Du Pont, may come about as the result of two new rulings by official Washington. One of them now permits its use throughout meat-packing plants, while the other permits ANTU to be sent through the mails, thereby facilitating distribution to those areas that cannot be economically reached by railway express or motor carriers.

**MONSANTO REBUILDS**

Contracts for the reconstruction of part of the Monsanto Chemical Co. plant which was destroyed in the recent Texas City disaster have been let. The initial contracts total more than \$6,000,000, with 1,500 men employed. The building will cost a little over \$1,000,000, while mechanical installations with process equipment will run approximately \$5,000,000.

**MAKES DONATION**

Chemical Works Boechout, Boechout, Belgium, recently presented to the Oklahoma University School of Pharmacy, for inclusion in the permanent aromatics cabinet, six essences. They are: Rose Marechal Niel 985, Lavande Pure 270, Violette de France Supreme 968, Chinoiserie 951, Singapur 789, and Hyacinth Luxe 809.

**INCREASED IMPORTS URGED**

Both governmental and private action to seek means of increasing imports to furnish dollars to pay for exports was recently suggested by Earl I. McClintock, president of Winthrop Products, Inc., in an address given before the Drug, Chemical and Allied Trades Section of the New York Board of Trade. Unless our political and financial leaders realize that the export markets are essential to the prosperity of the United States, and that the only way to develop exports is to develop imports as well, we shall certainly repeat the experiences of the 20's, he said. It is estimated that exports in 1947 will be 16 billion dollars, with imports of 8 billion dollars. Such a situation, said Mr. McClintock, is dangerously unsound in the long run.

**NEW SURFACE FINISHES**

Development of a successful line of clear and colored surface finishes for polystyrene plastics has been reported by Monsanto Chemical Co. The lacquers prevent the tendency of solvents to produce crazing in polystyrene; are resistant to oil and will protect polystyrene.

*Crystal clear,  
sparkling bright  
Maryland  
Glass...*

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KANSAS CITY: Aller Todd, 1101 Mulberry St. . . . MEMPHIS: S. Walter Scott,  
608 McCall Bldg. . . . ST. LOUIS: H. A. Baumstark, 4030 Chouteau Ave. . . .  
SAN FRANCISCO: Owens-Illinois Glass Co., Pacific Coast Division, 320 California St.



**OAK TON DRUG STORE**

Thanks to the Oak Ton Drug Store, first grade pupils of Nathan Hale School, Upton and Oakwood Avenues, Toledo, Ohio, are learning that a drug store is more than a place where you can buy a three-cent stamp or secure the latest copy of some fan magazine. This drug store is only a miniature one, stocked and operated by the youngsters, under the direction of their teacher, Miss May Buell, and their Principal, Hazel Oechsler. While many had the idea that a drug store was headquarters for sodas and sundaes, they are now learning that it also serves as a health center administering to the needs of the community, and that the pharmacist performs an extremely valuable function in compounding medicines ordered by physicians, as well as in furnishing medical supplies.

**MOSQUITO BLITZ**

A two-day aerial blitz took place last month to rid Mount Pocono, Pa., a famed Pocono Mountain summer resort, of mosquitos and flies. The secondary objective of the onslaught was to halt the attack of chewing insects which already had left their mark on oaks and maples and were making alarming headway on other vegetation in the area, including Pocono Manor. The spray used in the campaign was furnished by the Pennsylvania Salt Manufacturing Co. of Philadelphia. It consisted of 5 per cent DDT in a standard Penco Solvent Concentrate mixed with kerosene and applied at the rate of one gallon per acre.

**MORNING HOURS BEST**

The age-old theory that women seldom appear at their best early in the morning is now once more refuted by no less an authority than Don McNeill, master of ceremonies on the Breakfast Club radio show. He has been watching women for the past 14 years, and some of them have either arisen at dawn or traveled all night to appear at his 8:00 to 9:00 A.M. show, and it is his belief that women look fully as glamorous at 8:00 A.M. as they do at 8:00 P.M. Perhaps the fact that part of Don McNeill's Breakfast Club program is sponsored by Kay Daumit, noted authority on lovely hair, has inspired his feminine audiences to new heights of allure.

**NEW FORM OF DRUG**

A new highly-purified form of Streptomycin will be marketed in the

United States by Merck & Co., Inc., before August 1st. The outstanding advantage of this new form of the popular infection-fighting is the reduction of pain on injection.

**TO FIGHT PREMATURE DEATH**

Clinical medical research in this country has just begun to fight against disease, disability and premature death, declared Dr. Theodore G. Klumpp, president of Winthrop Chemical Co., in a recent address delivered at the 66th commencement exercise of the Albany College of Pharmacy. Brains and two billion dollars produced an atomic bomb, he said, and American brains and adequate financial support can produce an equally spectacular result in saving lives.

**COSMETICS AND THE PHARMACIST**

Glen J. Sperandino, an Instructor in Pharmacy, writes in the June issue of "The Purdue Pharmacist," that the pharmacists of America allowed a greater portion of a three million dollar cosmetic business pass them by and it could have been theirs, because it rightfully belongs to pharmacy since they are fundamentally pharmaceutical preparations. The average American woman, he said, spends \$110.00 per year on cosmetic and beauty aids. Where she spends it is up to the pharmacists!

**P.C.P.&S. COMMENCEMENT**

The one hundred and twenty-sixth Commencement Week of the Philadelphia College of Pharmacy and Science was inaugurated on Sunday, June 8th, with Baccalaureate Services at the Woodland Presbyterian Church, Philadelphia, with the Rev. Stanley K. Gambell delivering the sermon. On the following evening, the Faculty and the Board of Trustees tendered a dinner to the members of the graduating class, with Dr. Ivor Griffith, President of the College, serving as toastmaster. On Tuesday, the Alumni Association held its annual business meeting, at which time J. Mervin Rosenberger was re-elected President. Commencement exercises were held on Wednesday in the auditorium of the College. President Griffith awarded 68 degrees in course.

**ELIZABETH ARDEN SCHOLARSHIP**

Mrs. R. Keith Kane, National Chairman of the Smith College 75th Anniversary Fund, has announced a gift of an endowed scholarship of \$20,000 from Elizabeth Arden, to be called the Elizabeth Arden Scholarship.

**HIGH PROFITS NEEDED**

The profits reported by certain major oil refining companies, and also some of the smaller companies, as reflected in recently published statements, give an entirely erroneous picture of the financial position of the refining industry, declared L. H. HARVISON, vice president of the M. W. Kellogg Co., in a recent address before a luncheon for science editors. Many petroleum refiners have predicted the highest profits in history for 1947, thus placing the industry in an abnormally strong position, but these high profits are needed by the industry, he asserted, to finance its multi-billion dollar improvement program in 1948.

**FIFTEENTH ANNUAL MEETING**

The Packaging Machinery Manufacturers Institute will hold its Fifteenth Annual Meeting on October 6 and 7, 1947, at the Hotel Sheraton, Springfield, Mass., reports George W. von Hofe, Institute president. George A. Mohlman, president, Package Machinery Co., is chairman of the Committee on Arrangements.

**TO INCREASE PRODUCTION**

A new plant for the production of triethylhexyl phosphate, a plasticizer marketed under the trademark "Flexol" plasticizer TOF, is rapidly nearing completion, according to a report from Carbide and Carbon Chemicals Corp. Information on compatibility, physical properties and general performance is obtainable by writing to their New York office, 30 East 42nd Street, requesting Form 6159.

**BALCO NIGHT**

Hundreds of employees and their families attended a "Balco Night" preview of Bausch & Lomb's Hall of Optical Science at the Rochester (N. Y.) Museum last month to inspect the display which took nearly three years to build. It includes numerous animated exhibits that demonstrate optical principles and the development of modern optics as well as glass making and lens manufacturing processes.

**NO PUERTO RICO TAXES**

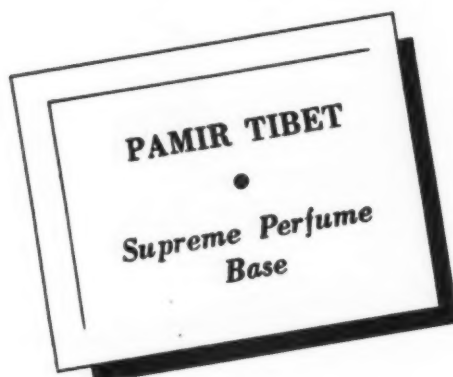
New industries can now operate in Puerto Rico under a blanket exemption from income, property and municipal taxes, and excises on machinery and raw materials. Governor Jesus T. Pinero recently signed the Act creating the "tax holiday" and making Puerto Rico the only region under the American Flag where such tax freedom is available.

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DULCINODOR has exceptional tenacity and fragrance. It may be used in French type creations, floral compounds or as a perfume base by itself where a French

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#### ABOUT PITTICIDE

Marketing of an improved granular germicide and disinfectant has been announced by the Columbia Chemical Division of the Pittsburgh Plate Glass Co. Composed essentially of calcium hypochlorite, the new product is called Pitticide, and it permits the germicidal action of chlorine to be employed safely, surely and easily, in hot or cold water.

#### MERCK FUND

The National Research Council recently announced the initial five awards under a \$100,000 fund established by Merck & Co., Inc., to provide promising young scientists with further research training in the closely allied fields of chemistry and biology.

#### DEPRESSION TALK "UNWARRANTED"

Pessimism generated by "depression talk or recession talk" was derided as "unwarranted" by E. Allen Newcomb, executive secretary of the National Wholesale Druggists' Association, in an address he delivered before the joint sessions of the New Jersey and Pennsylvania Pharma-

ceutical Associations, held last month at Atlantic City. He urges retail drug store owners to go into immediate action in modernizing their stores, improving the training of their clerks, and stepping-up management methods to increase sales volume, which, he said, is now running 6 per cent ahead of last year.

#### GLASS TECHNOLOGY

The University of Toledo has announced the establishment of a four-year undergraduate program in Glass Technology, leading to the degree of Bachelor of Engineering. Developed in consultations with representatives of Toledo glass firms, the new program will combine a sound training in basic subjects and offer specialization in glass and related fields.

#### METAL CLOSURES AVAILABLE

Although the demand for certain types of glass containers, particularly in the narrow-neck field, still exceeds the supply, there has been a rapid improvement in the metal closure picture, reports Owens-Illinois Glass Co., largely due to the removal of governmental restrictions on the use of several types of metals.

#### PURELY PERSONAL

MAURICE HANDMAN, president of Maurella Products Co., Inc., 100 Varick Street, New York, has announced that his company has acquired the control of Kidmetics—the cosmetics for the four to fourteen set.

ED RUSSELL, cosmetic expert of *American Magazine*, hits on a new approach to develop a cosmetic market among charge (not budget) account buyers, in multi-million quantity, in the department store field. The department store cosmetic sales-girls' consensus is that "Mrs. Charge Account Buyer" buys more per sale than the average cash customer; is loyal and returns regularly for her personal and family toiletries needs; is an excellent listener to a story of related items and is able to buy, regardless of how much cash she happens to have in her purse. Executives of advertising agencies, department stores, manufacturers, trade associations and the press, who have heard Ed Russell present his story, seem to believe that *American Magazine* has something.

REGINALD ROCKWELL has been elected a director of Hercules Powder Co.

\*\*\*\*\*

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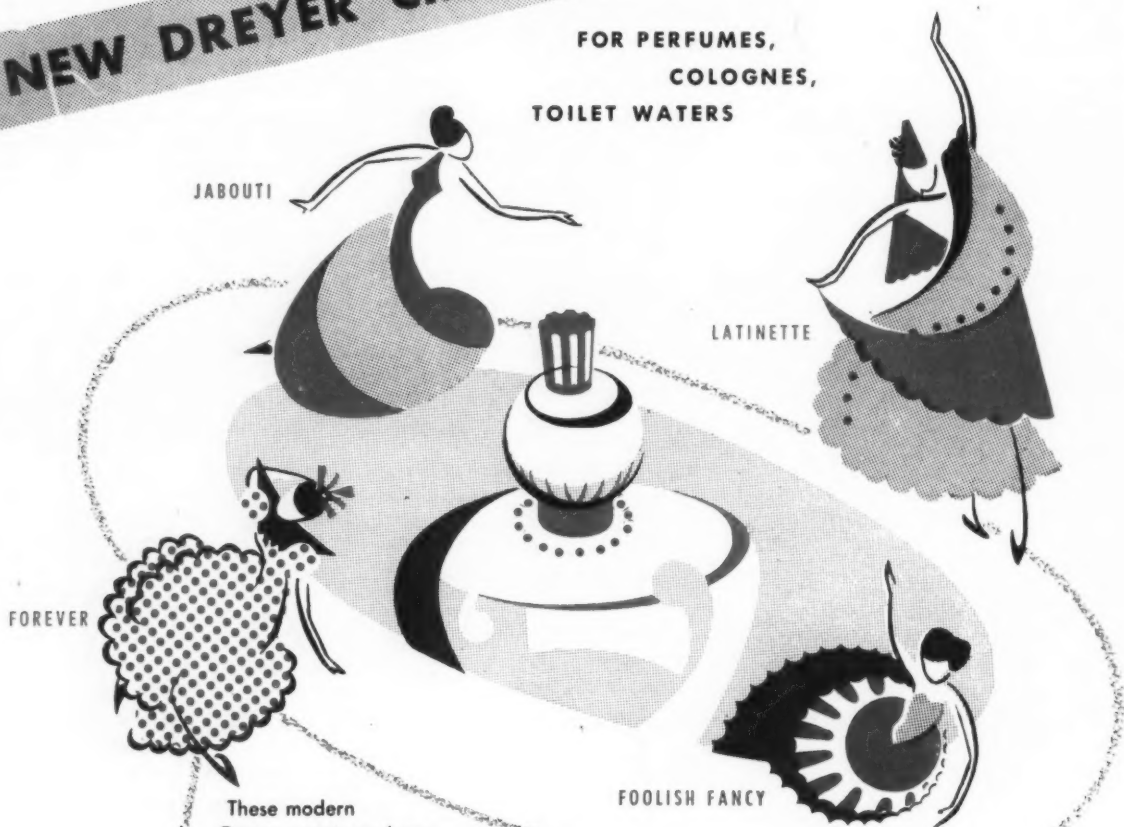
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**JABOUTI** . . . a well balanced floral bouquet with aldehyde top-note and a slight oriental persistence.

**LATINETTE** . . . an excellent Oriental type with a refreshing citrus topnote.

**FOOLISH FANCY** . . . an attractive and popular modern bouquet—well balanced and well fixed.

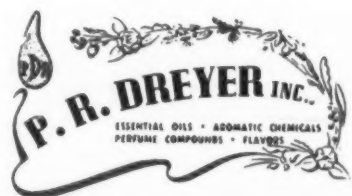
**FOREVER** . . . a tenacious, floral bouquet of sweet pea, gardenia and Jasmine.

**OTHERS** . . . originally Dreyer's, developed in our own laboratory along popular American lines, at interesting prices.

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DETROIT . . . L. H. CARLSON  
LOS ANGELES . . . ALBERT ALBEK, Inc.  
PHILADELPHIA . . . R. PELTZ CO.

THOMPSON-HAYWARD CHEMICAL CO.  
KANSAS CITY  
AND CITIES THROUGHOUT MIDDLEWEST  
MEXICO . . . EMILIO PAGUAGA  
PRINCIPAL CITIES IN SOUTH AMERICA



119 WEST 19th STREET • NEW YORK 11, N. Y.

**ADOLPH G. KAMMER, M.D.**, has been appointed Director in charge of the medical activities of all plants of Carbide and Carbon Chemicals Corp., and will be located at South Charleston, W. Va.

**C. V. CHESSMAN**, formerly of Coty, and **J. A. Kelly**, formerly of De Raymond, in association with **Jules Guckenheimer**, are the new owners of Ronsard perfumes, reports **Mme. Marie Christine**, founder of the business.

**A. L. ALSOBROOK**, for 13 years with the Frederick Stearns & Company Division, Sterling Drug, Inc., is now managing the newly-established office of the Winthrop Chemical Co. in Manila, P. I.

**JOSEPH J. LARKIN**, until recently vice-president of the Chase National Bank, has been elected a director of Park & Tilford, Inc.

**LUBIN PALMER**, president of Solon Palmer, was recently presented with the "Certificate of Public Service" by the Brand Names Foundation for the 100 years the brand name of "Palmer's Perfumes" has

"held public confidence through un-failing integrity, reliable quality and fair pricing." The award was presented at a luncheon at the Waldorf-Astoria, attended by over 600 businessmen.

**NELSON S. KNAGGS** of Sterling Drug, Inc., was honor guest at a recent reception held at the Advertising Club of New York, launching his new book, "Adventures in Man's First Plastic—The Romance of Natural Waxes," published by the Rheinhold Publishing Corp.

**LEO T. SLATTERY** of Chicago and **John C. McCauley** of Philadelphia have joined the sales staffs of National Starch Products, Inc.

**JOSEPH J. DUFFY, JR.**, has been appointed manager of sales of the Special Chemicals Division of the Pennsylvania Salt Manufacturing Co., and **Francis E. Murphy** and **Henry G. Meyer** have been named assistant production managers.

**JEAN E. GRELET**, formerly a vice-president of Cartier, Inc., has been made a vice-president and director of Lenthalic.

**EDWARD D. LANE** has been ap-

pointed sales manager of Lamont, Corliss & Co., manufacturers of Nestle's Chocolate and Pond's Cosmetics, and **H. Kenneth Phillips** has been named merchandise manager. **G. LLOYD KING**, vice-president and former general sales manager, has been appointed director of sales.

**EDWARD L. MARSCHNER** has been named divisional vice-president of the Centaur Company Division, Sterling Drug Co., Inc., which division is in charge of Stanley I. Clark, vice-president.

**PAULINE FOSTER**, formerly connected with Revlon Products Corp. and with Peggy Sage, has been appointed sales manager of Ann Haviland.

**PIERRE H. COUROULEAU** has joined the Chemical Plants Division of Blaw-Knox as consulting engineer, specializing in activated carbon installations for the recovery of volatile solvent vapors.

**MARY SKAGGS**, formerly publicity director of Associated Products, has been named to the same position by Consolidated Cosmetics and Dana Perfumes.

## OIL ORRIS ROOT LIQUID ABSOLUTE ORRIS CONCRETE ORRIS OLEORESIN (*Resinoid*)

Experience demonstrates that none of the substitutes for Orris are wholly satisfactory in giving the characteristic Orris note. It is therefore fortunate that these well known Bush specialties are now readily available.

# W. J. BUSH & CO., Inc.

ESSENTIAL OILS . . . AROMATIC CHEMICALS . . . NATURAL FLORAL PRODUCTS

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*Rainbows in the Rain*  
**Reign-Beau**

SWEET-HEARTS  
 of  
 FLOWERS

BOUQUET  
 of  
 FRAGRANCES

SPARHAWK CO.  
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**QUALITY**  
**ECONOMY**  
**UNIFORMITY**

*All Signs point to*

**POWCO  
 NEUTRAL  
 SOAP**

Let us show you the sure way to cost economies by using Powco Brand Powdered Neutral Soap in your dentifrices or cosmetics. Send today for your sample stating the use for which it is intended.

**JOHN POWELL & CO., INC.**  
 ONE PARK AVE, NEW YORK 16, N.Y.



# THE ROUND TABLE —

## **deNavarre Joins Beauty Counselors**

Beauty Counselors, Inc., has acquired the physical assets, laboratory and entire staff of Maison G. deNavarre Associates, drug and cosmetic consultants, to be welded into its wholly owned manufacturing subsidiary, Cosmetic Laboratories, Inc., Detroit, Mich.

Maison G. deNavarre joins Beauty Counselors as vice-president and a director, and also as vice-president in charge of manufacturing and research of Cosmetic Laboratories, Inc.

While Cosmetic Laboratories manufacturing program is thereby accelerated considerably, the company does not expect to be in full production for at least two years. Beauty Counselor products are sold direct to consumers by women trained as "counselors" throughout the United States and its possessions, and in Canada through Beauty Counselors of Canada, Ltd.

## **Charles C. Bryan Now Managing Director of Firmenich & Co.**

Charles C. Bryan who has been associated with the essential oil industry for about 15 years was appointed managing director of Firmenich & Co., New York, N. Y., July 1. During the war, Mr. Bryan served in the air force under Gen. Chenault in China. Following his discharge from the army in December, 1945, he resumed his work in the essential oil business. In January of this year he went to Geneva where he familiarized himself with the work of the parent company in Geneva, Switzerland.

## **Bermuda-Made Perfumes to Be Reintroduced to American Market**

Dr. Jean J. Martinat, New York, N. Y., who has been in Bermuda sev-

eral times since the Smith & Scott, Ltd., plant has reopened and reports that the romantic appeal of the islands to American tourists has not lost any of its pre-war attraction.

The Bermuda LiLi trade-mark Perfumes about to be reintroduced to the United States market are now presented in a new beautiful packaging with the Bermuda royal blue color scheme predominating.

He also reports that the Baileys' Bay factory will not only produce the natural flower oils necessary to give the top note character to the perfume extracts which they will sell under their trade name to retailers, but they will produce flower oil absolutes which they will eventually offer as essential oils to the trade.

## **Sugar Cane, a Source Of Hard Wax**

Department of Agriculture scientists, working at the Houma, La., laboratory of the department, under Dr. Louis B. Howard, have developed a process for extracting sugar cane wax, which resembles carnauba wax, from waste filter press cake. The dried press cake is treated with solvents in the process. The process is now being developed commercially on a small scale.

## **Request Cosmetics Tax Repeal**

Jacob Reck, counsel for the National Beauty and Barber Manufacturers' Assn. and Joseph Byrne, secretary of the Beauty and Barber Institute testified before a meeting of the House Ways and Means Committee last month to request repeal of the 20 per cent excise tax on bulk cosmetics used in beauty and barber shops. They also urged a reduction on the 20 per cent tax on cosmetics sold at retail.

## **TCMA Impressed by Trade Practice Meeting**

Members of the Toilet Goods Manufacturers' Association of Canada who attended the Trade Practice Meeting, held in New York, May 12 and 13, were so impressed that they recommended it to the attention of the other members during the associations' annual meeting, held June 20 and 21, at Manoir Richelieu, Murray Bay, Quebec.

Most of the members, as well as some thirty-five visitors from the United States, arrived in Murray Bay via boat. With the exception of two morning meetings, the activities were entirely social, consisting of golf, dancing, bridge, etc.

Matters of business taken up were: A report on the Canadian cosmetic tax. An effort had been made to simplify a rather involved tax on toilet goods without success. Legislation in Parliament to extend the Food and Drug Act to cover cosmetics was discussed. The bill would empower the Government to issue a list of ingredients not permitted in cosmetics.

Following an address by S. L. Mayham, executive vice-president of the Toilet Goods Association, the convention appointed a committee to study a means of setting up fair trade practices for use by the Canadian manufacturers. These practices would have no strictly legal standing.

L. T. Ridler, general manager of Elizabeth Arden (Canada) was elected president of the association.

## **Dutch Report on Toilet Goods Profits**

Originating in The Hague, a report on an inquiry into the gross profit-margins of the retail sale of perfumes, cosmetics and toilet preparations in Holland has been published.

# KOMMON/ SCENTS!

Radio is overlooking a couple of wonderful comedy writers if they don't hire the Senators now preparing the 15% rent increase. The increase has as much to do with rent control as hormones and birth control.

The legislation is the greatest contradiction in terms since Hitler asked for Peace.

A "control" technique was used on OPA; remember? But the country's finally realizing there's a considerable difference between price control and controlled prices.

Getting a direct answer from a politician is tougher than the steak on a table d'hote dinner. Hearing legislators talk out of both sides of their mouths isn't half so frustrating as the realization that nothing is coming out.

Judging by the criticism of Rent Control, the Taft-Hartley Bill and the proposed tax schedule, Truman will probably be responsible for the most overworked Veto since Marcantonio.

The President, incidentally, is badly in need of a pen that writes under hot water. There's been nothing but discord since he moved his piano into the White House.

There must be times when he doesn't know whether he's trying for Unification of the Army and Navy, the nation or the New York subway systems. He's even afraid to listen to the Detroit Symphony Orchestra for fear of a sudden sitdown strike while Margaret is singing.

Oh, well, as a friend observes, "there's no use worrying about life. You'll never get out of it alive."

Take the Cosmetic Industry, for example. The Luxury Tax finally has meaning to us. It's a luxury to stay in business these days.

*George Fiedler*



**KELTON**  
*Cosmetic Company*

230 West 17th Street  
New York 11, N. Y.

763 So. Los Angeles St.  
Los Angeles 14, Calif.

Private Label Manufacturers Exclusively  
Covered by Product Liability Insurance

# beeswax...

PURE, WHITE  
AND UNIFORM



BECAUSE IT'S

# sunbleached

Still using the same "old fashioned" methods proven successful for 95 years.

That's how long we've been bleaching beeswax since we first began operations in Holland in 1852.

Preference for high quality today is as strong as it was then.

That's why our customers would not think of letting us change production methods to gain "speed."

This same high quality extends through our entire line:

U.S.P. Pure Sunbleached Beeswax

U.S.P. Pure Yellow Refined Beeswax

Ozokerite

Ceresine

Micro Crystalline Petroleum Waxes

Special Wax Blends

# KOSTER KEUNEN



Sayville, L. I., N. Y.

Phone: Sayville 400

*The American Perfumer*

**Pierre J. Coutin in Charge of Sales  
And Purchases for Roure-Dupont, Inc.**

Pierre J. Coutin has been appointed vice-president in charge of sales and purchases for Roure-Dupont, Inc., New York, N. Y.

Mr. Coutin joined Roure Bertrand Fils & Justin Dupont, Grasse (France) as far back as 1927. After spending a year at the company's factories in Grasse, he was appointed their sole agent in Japan where he resided two years. Upon his return in 1930, he held various positions at the Argenteuil plant and the Paris office of the company.

Later on, he was appointed their sole agent for the entire Far Eastern territory, a position which he held until 1938. In this capacity, Mr. Coutin travelled extensively, not only over the Far East, but also in South and West Africa, Madagascar and Reunion Island, where he had the opportunity to make a first hand acquaintance with producers of many



Pierre J. Coutin

essential oils as well as with consumers of all raw materials for perfumery.

Mr. Coutin joined the Free French Army immediately after the French armistice and for two years he was French liaison officer with the U. S. Army Headquarters in China. He received his discharge in August 1945 with the rank of major.

In 1945, he came to New York and since June 1946 has been handling the purchases and sales for Roure-Dupont, Inc., who are the sole agents in the U.S.A. and Canada for Roure Bertrand Fils & Justin Dupont.

**Robert Aries on  
European Trip**

Robert S. Aries, consulting chemical engineer and research associate of the Polytechnic Institute of Brooklyn, left last month for Europe on a tour of chemical and related plants. Dr. Aries expects to spend most of his time in France, Belgium and Switzerland in connection with his consulting work. He will also attend the International Congress of Chemistry, where he is scheduled to present a paper on "Modern Methods of Ethanol Manufacture."

**Export Controls on  
Certain Waxes Removed**

The Office of International Trade, Department of Commerce, announced the removal of export controls on unrefined and semi-refined paraffin waxes, slop waxes, and mineral waxes, except ceresin, hardening, and micro-crystalline, on June 27. Refined paraffin wax, candles, ceresin, hardening and micro-crystalline remain under export control.

**Excise Tax  
May Be Cut**

Representative Harold Knutson, chairman of the House Ways and Means Committee has indicated his feeling that the 20 per cent excise tax on cosmetics should not be entirely eliminated, but that the Committee may be favorable to a reduction of 50 per cent.


**Thomas Govett Becomes Vice-  
President of Reheis Co.**

Daniel H. Reheis, president of the Reheis Co., Inc., Newark, N. J., has announced the appointment of Thomas Govett as vice-president and technical director.

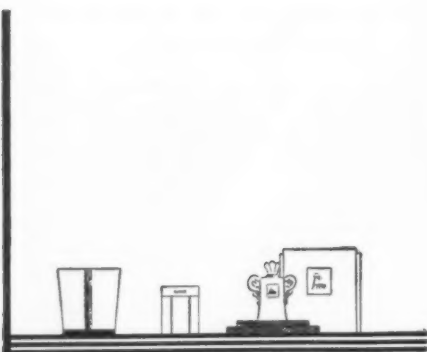
HEADQUARTERS FOR

# Bulgarian Otto & Rose

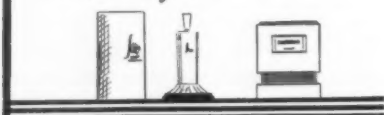
Immediate Delivery  
Attractive Prices  
Fine Grade



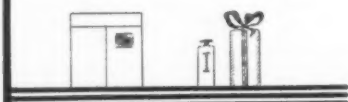
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60 BROAD ST., NEW YORK 4, N. Y.



*there is no finer*



*cosmetic container*



*than a Karl Voss box.*

**Karl Voss Corporation**  
HOBOKEN NEW JERSEY

**Nothing New**  
**has been added!**

**WARRANTED**  
**BEEHIVE BRAND**  
**BEESWAX**

**Beauty**

● Beehive Brand  
100% Pure Beeswax—remains just that.  
It's all beeswax—of a superior quality that  
enables you to use less to achieve a finer  
product. It's chemically tested for purity and  
quality, and it's sun-bleached to a smooth,  
even-textured whiteness. You may buy Beehive  
Brand with confidence that nothing new  
has been added!

- Only the choicest of the world's crude beeswax goes into it.
- Chemically tested for purity and quality.
- Sun-bleached to a smooth, even-textured whiteness.

**BEEHIVE BRAND**  
*Beeswax*

And because of its superior quality you can use  
less and still get a finer finished product. Guaranteed pure . . . guaranteed always the same.

**WILL & BAUMER CANDLE CO., INC.**  
Established 1855  
Buckley Road, Syracuse, New York

Ceresine	Red Oil	Yellow Beeswax	Spermaceti
Composition Waxes	Stearic Acid	Hydistear	

## BIMS Golfers Make Good Scores at Knoll Club Meeting

The good fellowship which is always found where members of the BIMS are gathered together was very much in evidence on the afternoon and evening of June 19 when 79 members and guests played golf and afterwards 87 enjoyed a bountiful repast at the Knoll Country Club near Boonton, N. J.

The weather was perfect for golf and the course, located in the hills near Boonton, was ideal. As a result, some good scores were turned in. After golf, an excellent sirloin steak dinner was served. At the conclusion of the dinner, Martin F. Schultes, the popular chairman of the association, awarded the golf prizes amid much good-natured banter. Following this, many remained at the club to play bridge and enjoy other recreation until a late hour.

Prize winners were: Harry Heister, Walter Jamieson, Russell Boland, George Dunn, W. Edsall Terry, Fred



Martin F. Schultes

W. Webster, Charles Vetterlein, Frederick L. Butz, Russel F. Rooks, Randall Naumann, C. R. Keeley, Ross A. White, Ivon H. Budd, and John Cavalero.

## Studio Cosmetic Moves

The Studio Cosmetic Co., has moved to a new plant located at 12232 West Olympic Blvd., Hollywood 36, Calif.

## Associated Producers File Reorganization Petition

Subject to agreement of creditors, Associated Products, Inc., Chicago, Ill., is going through a reorganization, following an involuntary petition of bankruptcy. The new management, consisting of Morris Levinson, president, and Fred Buwen, secretary, plans to continue normal operation of the business.

The court has authorized the company to borrow up to \$250,000 from Nathan Cummings without interest. The capital stock was acquired early last month by Mr. Cummings through default in payment of a loan for which stock had been pledged as collateral.



More than one hundred guests attended the Housewarming party on the afternoon of April 25, by the Felton Chemical Co., Los Angeles, Calif. The occasion was a celebration of the occupancy of the firm's new plant at 2242 Purdue Ave. The new plant is reputed to be the most modern of its kind on the Pacific Coast, with equipment and machinery of the latest design to insure greatest efficiency of operation. The housewarming was hosted by "Bob" Felton and his charming wife, who, with the aid of the Felton personnel, offered the guests hospitality of the first order.

## A. Burnett & Co. Opens New York Offices

A. Burnett & Co. has opened New York offices representing Rene Sordes, manufacturer of aromatic and synthetic chemicals. Rene Sordes was formerly known as Grolea and Sordes.



# GERARD J. DANCO, INC.

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CABLE ADDRESS: CODAN, N. Y.

**DIRECT IMPORTS FROM SOURCE:**

**SELECTED FRENCH LAVENDER OILS**

**32/34% — 38/40% — 41/44%**

**Natural Ester Contents**

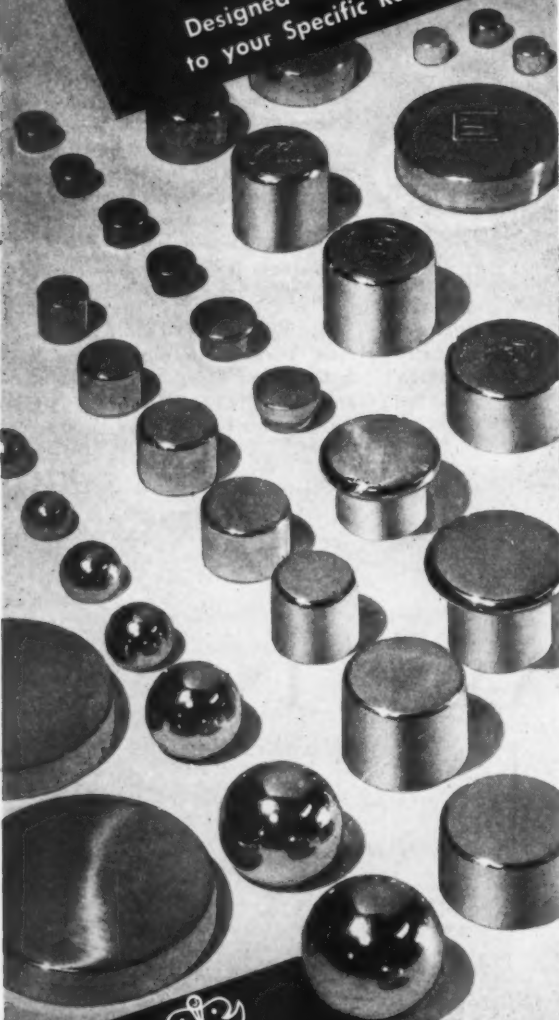
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**MUSK —CIVET — AMBERGRIS**

**DIRECT CONNECTION WITH THE BELGIAN CONGO SINCE 1893**

**"QUALITY MERCHANDISE GUARANTEED BY REPUTATION"**

*Top off*  
 YOUR BOTTLE OR JAR with a  
 RICHFORD METAL CLOSURE  
*Any Size Plain or Embossed Any Shape*  
 or  
 Designed and Manufactured  
 to your Specific Requirements



  
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The most discriminating manufacturers of cold wave solutions say that **STANTON'S AMMONIUM THIOGLYCOLATE** assures less odorous and faster action solutions than any other form of thioglycolate. Noteworthy, too, are their claims of less complications in compounding the finished solutions, and greater stability, as well as lovelier, tighter ringlets achieved in the final results.

**STANTON'S AMMONIUM THIOGLYCOLATE** is sufficiently moderate in price to permit you to afford this superior material for your cold wave solutions. Always delivered according to **STANTON'S** guaranteed specifications, or better, our highly purified **AMMONIUM THIOGLYCOLATE** will help solve your many problems connected with this important product for the beauty industry.



## STANTON LABORATORIES, INC.

227 Krams Avenue, Philadelphia 27, Pa.  
 (Plant & Main Office)

#### Eric Eichwald Organizes Meyer-Oakwood Laboratories

Meyer-Oakwood Laboratories has been organized by Eric Eichwald with offices at 152 W. 25th St., New York, N. Y., to do a private label business in perfumes, colognes, lotions and creams. Mr. Eichwald has had experience in this work abroad and in this country.

#### Jack Newton Begins Business as A Freelance Package Designer

Jack B. Newton who has been associated with some of the successful new toiletries lines in the past decade has launched into business for himself as a package and display designer with headquarters at 60 Gramercy Park N., New York, N. Y.

#### ADCAM Golf Outing

The Allied Drug and Cosmetics Association of Michigan held its second golf outing of the season at Birmingham Country Club June 27. This outing was known as "Jeff Snider Day" in honor of Jeff Snider, member and past president of the association. He is leaving the De-

troit district to open offices in Louisville, Ky., for the Commercial Solvents Corp.

One of the highlights of the season took place June 24, when the annual tri-city golf meet took place. The Allied Drug and Cosmetics Association of Michigan was host to the Chicago and St. Louis groups. There was a large turn-out and fun was had by all.

#### Thomas Hendy in U. S. On Business Trip

Thomas G. C. Hendy, chairman of the board, Evans Chemicals, Ltd., is in the United States for technical discussions with Evans Chemicals, Inc., New York, N. Y. Mr. Hendy is also meeting with American cosmetic manufacturers who wish to have their products produced in England for distribution in Europe. He expects to return to England in the early Fall.

#### Joseph Turner to Market Clarke Distilleries' Denatured Alcohol

Arrangements have been completed for Joseph Turner & Co., Ridgefield, N. J., to market denatured alcohol manufactured by Clarke Distilleries,



R. M. L. Francis, managing director of National Adhesives, Ltd., Slough, England, and O. B. Meijer, managing director of National Zetmeelindustrie, N. V., Veendam, Holland, both firms affiliated with National Starch Products, Inc., New York, N. Y., recently completed scheduled visits to National's plants and offices throughout the United States and Canada. Mr. Francis and Mr. Meijer attended various staff and sales conferences while in this country, and visited Merideth Simmons & Co., Ltd., Canadian affiliate, in Toronto and Montreal.

Ltd., Boston, Mass. Clarke Distilleries operate a plant in Caribou, Maine. The alcohol will be marketed through offices in Ridgefield, Chicago, and New England.

## BENJ. FRENCH, INC.

ESSENTIAL OILS

AROMATIC CHEMICALS

### DESCOLLONGES

PRODUCTS

JASMAROME

LILY OF THE VALLEY 46

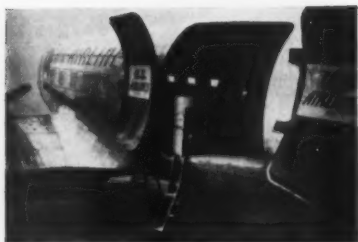
LILAC FLEURS B

ROSOFLOR

ALDOLIN

160 FIFTH AVENUE

NEW YORK 10, NEW YORK



Twin-engined DC-3's flew 50,000 pounds of benzene hexachloride to El Salvador last month at the emergency request of that country which was threatened with a locust plague capable of wiping out its coffee crop. Working day and night to supply this insecticide order, the plant of John Powell & Co., Inc., New York, N. Y., kept a steady stream of trucks shuttling between the Brooklyn plant and the air field. Officials of El Salvador, desperately attempting to check the plague, consulted Powell entomologists. Laboratory tests, plus office information, supplied the answer in benzene hexachloride

#### Ralph Morris Heads John Powell's St. Louis Office

Ralph Morris, formerly sales representative for John Powell & Co., New York, N. Y., has been placed in charge of a new branch office in St. Louis. Mr. Morris, whose headquar-

ters are at 1045 Paul Brown Building, will represent the Powell company in Alabama, Mississippi, Texas and Oklahoma.

#### Bjorksten Adds To Staff

The Bjorksten Laboratories, Chicago, Ill., has announced the addition of the following to its staff: Arthur E. Marsan, Eleanor G. Sheridan, Helen L. Robison and John Carlton Elliott.

Mr. Marsan previously was on the research staff of the Solar Manufacturing Corp. Miss Sheridan was a chemist with the Container Corporation of America. Miss Robison, a chemist, was formerly associated with Shell Oil Co., at Los Angeles, Calif. Mr. Elliott, who served in the Marines during the war, came to Bjorksten from the Medi-Synth Laboratories.

#### Fallek Products At New Address

Fallek Products Co., Inc., has announced a move to larger quarters at 165 Broadway, New York, N. Y. The new telephone number is Barclay 7-7939.

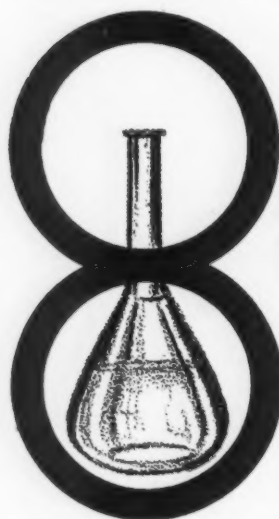
#### DCAT Fall Meeting Scheduled for September

The 57th annual meeting and election, and the resumption of the Fall meeting and golf tournament of the Drug, Chemical and Allied Trades Section of the New York Board of Trade is scheduled for Sept. 25 and 26 at Shawnee Inn, Shawnee-on-Delaware, Pa.

#### Rider Becomes Associated Research Director of Lever Brothers

Dr. Theodore H. Rider has been named associate director of research by Lever Brothers Co., Cambridge, Mass. Dr. Rider, who has been technical director of the Pepsodent Division of Lever Brother Co., in Chicago, for the past ten years, will, in his new post, assist John Bodman, director of research, in the handling of all technical research activities.

Dr. Rider is the recipient of two degrees from Yale University—a Ph.B. and a Ph.D. He is a fellow of the American Association for the Advancement of Science, a member of Phi Beta Kappa, Sigma Xi, American Chemical Society, Chicago Chemists Club and the American Pharmaceutical Association.



## Reasons Why **PLYMOUTH** **ZINC STEARATE U. S. P.** **IS BEST FOR DRUGS AND COSMETICS**

1 Backed by the longest commercial Stearate manufacturing experience in America . . . M. W. Parsons offer you this new product as the finest Zinc Stearate that can be made.

2 Years of research have made possible a particularly white product

3. Special production methods . . . developed over more than a quarter of a century . . . have made it ODORLESS

4 It will not develop offensive odors even if kept for a long period

5. It enables your face powder to retain the same odor that you give it.

6. A smooth, light, fluffy texture has been finally and definitely achieved.

7 Tested independently it shows the following results: ARSENIC (Gutzeit and Spectrographic Test) . . . Not Found. LEAD (Spectrographic Determination) . . . 1.7 parts per million.

8. The reputation and record of M. W. Parsons assure you of Uniformity in all shipments.

We also manufacture a superlative grade of **PLYMOUTH MAGNESIUM STEARATE**

### **M. W. PARSONS**

*Imports*

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Cable Address. PARSONOILS, NEW YORK

**A complete line of Cosmetic Raw Materials**

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# U.S.I. CHEMICAL NEWS

July ★ A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1947

## New Process Boosts Heavy Carbon Output

A 600 per cent increase in the amount of heavy carbon available for scientific studies of the secrets of life and growth has been made possible by development of a large-scale process for separating heavy carbon atoms from ordinary carbon. It was revealed recently. Because carbon is a constituent of all living cells, the heavy form has been widely used to trace chemical reactions in living tissue.

## U.S.I. Ups Methionine Output—Wide Pharmaceutical Use Seen

Recent Papers Indicate Vital Amino Acid Will Have Use In Enrichment of Feedstuffs as Well as Medical Therapy

Increased demand for methionine has accelerated production schedules for this vital amino acid, a U.S.I. official announced recently. Methionine, a scientific rarity as recently as a year ago, is now being widely used in the treatment of liver damage and the fortification of oral and intravenous protein hydrolysates.

New work indicates it may be employed in the therapy of arteriosclerosis, anemia, and benzene poisoning. Increasing use is also foreseen for this compound as a means of enriching feedstuffs.

### Methionine For Feedstuffs

The sulfur amino acids, of which methionine is one, appear to be important in animal nutrition. For example, attempts to use synthetic urea in rations for lambs was unsuccessful until methionine was added to the diet. The addition of this compound influenced bacterial synthesis in the stomachs of the lambs, resulting in a decided increase in the weight of the experimental animals. Work of

## U.S.I. MAKES NEW 'TIME MAP' AVAILABLE FOR LONG DISTANCE PHONE USERS AND TRAVELERS



### LEGEND

- States using daylight saving time
- Cities using daylight saving time
- U.S.I. Sales offices, plants and warehouses
- States in which principal cities use daylight saving time, with the following exceptions—

IN PENNSYLVANIA — Dunmore, Monessen, Nanticoke, New Castle, Shenandoah.

IN ILLINOIS — Alton, Berwyn, Granite City, Jacksonville, Mattoon, Moline, Rock Island.

IN INDIANA — Bedford, Evansville, Kokomo, New Albany, Terre Haute, Vincennes.

Note: When daylight saving time is applicable add one hour.

A guide to time-zone and daylight-saving time differences in the United States has been prepared for your convenience by the makers of U.S.I. solvents, chemicals, and resins. Easily-read 9" by 12" copies, suitable for ready reference, may be obtained upon request.

The information contained in this map has been carefully checked with reliable sources. Naturally, however, U.S.I. cannot assume responsibility for its accuracy.

## Diphtheria Serum Improved By Alcohol Precipitation

A diphtheria toxoid, claimed to be free of substances causing fever and other reactions, was exhibited recently at a meeting of an American scientific group. Called the outstanding achievement of the year in preventive immunology, the toxoid is said to contain double the immunizing potency of former toxoids. Secret behind the success of this new serum is the process of alcohol precipitation, the discoverers state. This process takes place at a temperature so low that pyrogen-producing bacteria cannot develop.

## New Moth Proofers

Guanidine and substituted guanidine salts of dibasic carboxylic acids, except oxalic, are useful as mothproofers when applied at about 3 per cent by weight to cloth, a recent patent states. These compounds are only slightly soluble in petroleum hydrocarbons, soluble to a limited extent in aromatic hydrocarbons, but quite soluble in alcohol.

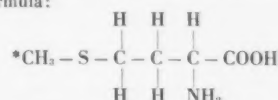
## New Agriculture Yearbook

The new "Yearbook of Agriculture" (1943-1947) which answers thousands of questions about recent applications of chemistry to farming, is now ready for distribution. The yearbook is the first published since 1942, and the latest in a line of annual volumes on farming that date from 1862.

## What Is Methionine?

Methionine is one of the ten amino acids essential for the growth and repair of animal tissue. It cannot be synthesized in the animal or human body, but must be incorporated in the diet. Its best natural sources are milk and dairy products such as cheese. One quart of milk contains about one gram of methionine.

Chemically, methionine is alpha-amino-gamma-methyl mercapto butyric acid. It has the following structural formula:



\*Labile methyl group

this kind seems to indicate that amino acids of the methionine type play an important role in stimulating the bacterial flora of the stomach of the farm animals. This stimulation appears to produce a growth vitamin which is not made available by any other means.

It has been established that considerable increase in the growth of poultry can be obtained when marine protein is used to supplement soybean protein. Some evidence indicates that part of this growth increase may be due to the presence of methionine in fish products. This is corroborated by the fact that when methionine is used as an adjunct to soybean meal, it has been found to increase the poultry growth.

Little is known about the amino acid requirements for egg production, but the information available shows that there is a greater percentage of sulfur amino acids in egg than in poultry meat. It can, therefore, be concluded that amino acids, such as methionine, are intimately related to egg production.

(Continued on next page)

## NEW DEVELOPMENTS IN METHIONINE

(Continued from page one)

Methionine may also be the means of saving the millions of dollars lost annually by the meat packing industry because of faulty or damaged livers found after slaughter of farm animals.

According to one authority, the low-cost methionine made available by U.S.I. may result in "super-charged" feed concentrates. These concentrates are likely to be based on soybean meal which requires additional methionine for maximum growth response.

## Arteriosclerosis Aid

Indications that methionine may reduce the cholesterol in blood and blood vessels has been reported. This work obviously has an important bearing upon the treatment of hardening of the arteries, in which excessive cholesterol deposition is believed to play a part. In the experiments conducted at a western medical school, significantly low levels of blood cholesterol and cholesterol esters were established, and the aorta, heart, and liver showed low lipid levels after Leghorn hens had been treated with methionine for seven weeks.

## In Anemia Therapy

Following successful experimental studies on animals, which were reported in a previous issue of Chemical News, a Parisian scientist undertook a clinical trial of methionine for

the treatment of anemia. Ten patients with anemias of various types were given doses of methionine daily. The amino acid proved effective in 7 of the 10 cases. Slow and continuous increase in the number of red blood corpuscles, with an average increase of 1,100,000 in two weeks, was reported. This is explained by the experimenter as being due partly to the amino acid character of methionine, and partly to the favorable effects of the drug on hepatic function.

## Other New Developments

Rats exposed to benzene were protected by the addition of methionine to the diet, a recent paper states. It was also found that irrespective of exposure to benzene, rats deficient in protein grew more, consumed more food, had higher hemoglobin levels, and had smaller livers with less fat content when fed on diets supplemented with methionine than on ordinary diets.

Two South American investigators have found that the mortality rate of rats suffering from experimental diabetes is decreased when methionine is added to the diet. Tissue changes in the capillaries as well as the corneas of rats' eyes have been observed in methionine-deficient diets, indicating that there is a close relationship between the health of the eye and methionine intake. It is also reported that the addition of methionine to a milk diet increased the retention of vitamin C in rats.

**INCREASE IN POULTRY GROWTH** is obtained when methionine is used as an adjunct to soybean meal. There also may be some correlation between methionine intake and egg production. Wide use is foreseen for this vital amino acid in enriching feedstuffs.



## TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U.S.I.

**To lay plastic tile.** a new rubber-plastic cement has been developed which is claimed to adhere the tile to almost every type of surface. (No. 214)

USI

**A new activated bleaching clay** is now being offered for the decolorizing of vegetable, fish, animal, nut, and petroleum oils, as well as for the recovery of dry cleaning solvents. (No. 215)

USI

**A salt substitute**, which is described as an odorless, white, crystalline powder containing no sodium and having a salty flavor, has been developed to meet the new medical concept of salt-free diets. (No. 216)

USI

**A new, fast-drying printing ink**, expected to simplify and speed-up printing methods and processes, has been developed. (No. 217)

USI

**Rot and termite protection** for wood are offered by two new products. The first is a compound said to be particularly applicable to wood which comes in contact with the soil. The second is a machine which is designed to apply preservative liquids to both sides of plywood and lumber at the same time. (No. 218)

USI

**A shoe leather substitute** is described as a fiber which can be tanned and bonded. (No. 219)

USI

**An odorless anti-corrosion finish**, alleged to dry by evaporation without an oxidation period, is applicable for use in steel plants, chemical plants, food packing houses, dairies, or breweries, the manufacturer states. (No. 220)

USI

**A new series of thermosetting plastics**, require only very moderate temperatures and no pressure to cure, according to the manufacturer. The plastic is said to have excellent electrical, chemical, and optical properties. (No. 221)

USI

**To provide permanent label identification**, a new adhesive, developed for use on all types of containers, forms a clear protective film over the label, according to the manufacturer's claims. (No. 222)

USI

**To remove carbon deposits**, a solvent has been developed which is said to leave a protective film against rust. (No. 223)

USI

## U.S.I. INDUSTRIAL CHEMICALS, INC.

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BRANCHES IN ALL PRINCIPAL CITIES

## ALCOHOLS

Amyl Alcohol  
Butanol (Normal Butyl Alcohol)  
Fusel Oil—Refined

## Ethanol (Ethyl Alcohol)

Specially Denatured—all regular and anhydrous formulas  
Completely Denatured—all regular and anhydrous formulas  
Pure—190 proof, C.P. 96% Absolute

\*Super Pyra Anti-freeze  
\*Solax proprietary Solvent

## \*ANSOLS

Ansol M  
Ansol PR

\*Registered Trade Mark

## ACETIC ESTERS

Amyl Acetate  
Butyl Acetate  
Ethyl Acetate

## OXALIC ESTERS

Dibutyl Oxalate  
Diethyl Oxalate

## PHTHALIC ESTERS

Diamyl Phthalate  
Dibutyl Phthalate  
Diethyl Phthalate

## OTHER ESTERS

\*Diatol  
Diethyl Carbonate  
Ethyl Chloroformate  
Ethyl Formate

## INTERMEDIATES

Acetoacetanilide  
Acetoacet-ortho-anisidide  
Acetoacet-ortho-chloranilide  
Acetoacet-ortho-falidide  
Acetoacet-para-chloranilide  
Alpha-acetylbutyrolactone  
S-Chloro-2-pentanone  
S-Diethylamino-2-pentanone  
Ethyl Acetoacetate  
Ethyl Benzoylacetate  
Ethyl Alpha-Oxalpropionate  
Ethyl Sodium Oxalacetate  
Methyl Cyclopropyl Ketone

## ETHERS

Ethyl Ether  
Ethyl Ether Absolute—A.C.S.

## FEED CONCENTRATES

Riboflavin Concentrates  
\*Vocatane 40  
\*Curbay B-G \*Curbay Special Liquid

## ACETONE

Chemically Pure

## RESINS

Ester Gums—all types  
Canga Gums—raw, fused & esterified  
\*Aroplax—alkyds and allied materials  
\*Aroflene—pure phenolics  
\*Arochem—modified types  
Natural Resins—all standard grades

## OTHER PRODUCTS

Collodions Ethylene  
Ethylene Glycol Urethan  
Nitrocellulose Solutions di-Methionine

Printed in U.S.A.





## Kimble Glass Transfers Sales Managers

S. J. McGiveran, general sales manager of the Kimble Glass Division, Owens-Illinois Co., Toledo, Ohio, has announced the appointment of E. B. Dennis, Jr., Edwin J. Rhein and Edward W. Charlesworth as division sales managers for Kimble Glass. Mr. Dennis has become sales manager of the container and accessories division; Mr. Rhein, the scientific division and Mr. Charlesworth, the tube and rod division.

These appointments are part of the integration of the former Kimble Glass Company's sales personnel into its new status as a division of Owens-Illinois Glass Co. Both Mr. Dennis and Mr. Rhein will transfer their departments from Vineland, N. J., to Toledo, Ohio, within the next few months.

## Lorraine Lakritz-Jack Norman Friedman Wedding

Mr. and Mrs. William Lakritz have announced the wedding of their daughter, Lorraine, to Jack Norman Friedman on June 28, in Chicago. The bride is attending Northwestern University and the groom is major-

ing in chemistry at the University of Illinois, and is working at the Chicago office of Florasynth Laboratories, Inc. He served for three years in the U. S. Marine Corps with the 2nd and 6th Marine Divisions and saw combat in Saipan, Tinian and Okinawa as a tank gunner. Mr. Friedman also served with the Occupation Forces in Japan and China.

## New York Aromatics Corp. Succeeds New York Aromatics Co.

The New York Aromatics Corp., has been formed to take over all interests of the business known as the New York Aromatics Co. K. G. Kalmbach will continue to direct the policies and activities of the organization in the capacity of president.

## Solvay Branch Office In New Quarters

The New York branch office of Solvay Sales Corp., New York, N. Y., is in new quarters at 43 Exchange Place, New York, N. Y. This office serves Southern New York, Long Island and New Jersey. Executive offices of the corporation remain at 40 Rector St.

## Seeley's Aromatic Chemical Plant to Nyack

Seeley & Co., Inc., New York, N. Y., has announced the removal of its aromatic chemical plant at Farmingdale, Long Island, to Nyack, New York.

## Obituary

### William D. Luhrs

William D. Luhrs, who was made manager of the Boston branch of Innis, Speiden & Co., New York, N. Y., following the Armistice of World War I, and who retired in Oct. 1944, died at Brighton, Mass., May 22, 1947.

### Wilbur H. Hyde

Wilbur H. Hyde, prominent in the perfume and cosmetic business and twice president of the Cleveland Advertising Club, died recently in Cleveland.

Mr. Hyde went to work for the Abner Royce Co. at the age of 21. He later became secretary and then president in 1919, and directed the company until 1945.

## The Sophisticated Package

Lustrously black jars, ceramically transformed out of standard flint jars by our Glass-Crafters shop! The jet black is permanently fired-in and is really swank! Available from stock in 1, 2, 4, 8, and 16 oz.



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*by Braun*

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Glass Containers & Closures

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## CYCLONOL

### CHARACTERISTIC ODOR and COOLING EFFECT OF MENTHOL

Cyclonol is chemically 1-methyl-3-dimethyl-cyclohexanol-(5). Graphically the structural formula is given in Fig. 1. It may be considered a lower homologue of symmetric or meta Menthol which has the structural formula shown in Fig. 2.

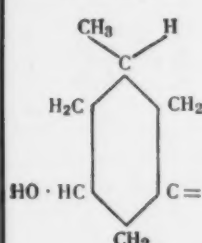


FIG. 1

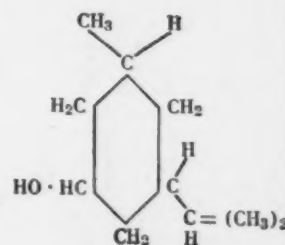


FIG. 2

Cyclonol replaces Menthol satisfactorily in shaving creams and lotions, liniments, analgesic balms, ointments and similar preparations. It has also been accepted by the U. S. Treasury Department as a Denaturant for alcohol in place of Menthol U.S.P.

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NEW YORK 16, N. Y.

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*Cosmetics •*

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- **THE SUBTLE SENSE.** By Ralph Bienfang. Odor, its relationship to man, to other senses, to society, to animal life, safety, business, literature. A wealth of valuable and interesting data. Many anecdotes and little known facts. . . . \$2.00 postpaid.
- **SOAP IN INDUSTRY.** By Georgia Leffingwell & Milton Lesser. Provides chemists, manufacturers and others with many useful hints as to utilization of soaps in manufacturing processes. Includes a wealth of formulae, their preparation, their uses. Just published . . . \$4.00 postpaid.
- **THE SPICE HANDBOOK.** By J. W. Parry. A guide for manufacturers and importers. Discusses various properties of spices, their uses as flavors in foodstuffs, adulterations and adulterants, the degree of grinding, the weight and style of packaging, the essential oil content, etc. 1945 edition. 240 pages. Fully illustrated . . . \$6.50 postpaid.
- **THE LAW OF FOODS, DRUGS & COSMETICS.** By Harry A. Tomlin, Jr. Practical working manual. Contains official government regulations, FDA trade correspondence rulings, official forms and charts. Gives thorough analysis of the decisions relating to: False & Misleading Advertising, Unfair Competition & Misbranding, Informative Labeling. 1460 pages . . . \$17.50 postpaid, including first supplement (will be kept up-to-date at intervals with additional pocket supplements for small additional charge).
- **AMERICAN SOAP MAKER'S GUIDE.** By P. B. Meerbott & I. V. Stanley Stanislaus. Treatise on art and science of manufacture of soap, candles and allied toilet preparations. (Published 1928.) 700 pages. 105 illustrations . . . \$7.50 postpaid.
- **ROGERS' MANUAL OF INDUSTRIAL CHEMISTRY.** Edited by C. C. Furnas. Latest edition of this master work. Gives all essential facts, figures, methods, operations of every important chemical industry in America. Two big volumes. 1685 pages. 501 illustrations . . . \$19.00 postpaid.

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# MARKET REPORT

## Short Supplies of Menthol in View

WHILE day-to-day price movements in essential oils continued to be confined within narrow limits, a close check on the general list shows that many items lost further ground over the past month. The continued downward movement in values could be traced to the basic law of supply and demand rather than by any relation to administration pressure for price reductions. The reductions in many instances have in the opinion of some trade factors been long overdue following the war period when shortages caused many articles to reach what many regarded as abnormally and ridiculously high levels.

There is developing, however, a general feeling that some items are nearing the bottom of the downward cycle. Continued resistance on the part of buyers is serving to retard the potential reversal in the downward trend, but importers in some instances report that shippers in primary centers are beginning to ignore bids for replacements especially where lower prices are quoted.

Houses long identified with the essential industry hesitate to recommend strong forward buying. Excessive conservatism on the part of consumers, however, can easily be carried too far, especially since inventories have been allowed to run at a dangerously low level.

### PRODUCTION OF GLYCERIN

Heavy saponification of fats, and a general disposition on the part of large users to consume inventories brought about a reduction of 10 cents per pound in refined glycerin establishing the tankcar price for chemically pure and high gravity at 40 cents. Although the reduction was regarded by some in the trade as rather substantial, the late adjustment in no way compared to the advance back in November when the price rose from 18 cents, tankcar basis, to 55 cents per pound. Contrary to expectations, April production of glycerin declined 770,000 pounds from the previous month's output, and stocks fell 495,000 pounds from 46,890,000 pounds on hand at the end of the preceding month, March. Trade factors had hoped that April stocks would have reached the so-called safe level of 50,000,000 pounds. It is quite possible, however, that official figures for May and June will make a better showing.

Price of thymol crystals was advanced by one maker from \$3.50 per pound, in 100-pound fiber drums to \$3.65. Another maker continued to quote \$3.15 per pound for 25 to 50-pound lots, but only very limited amounts were to be had at that level. Thymol enjoys a wide use in proprietaries, thymol derivatives, perfume preparations and in medicine. The producer quoting \$3.65 per pound as a minimum selling price explains that because of conditions surrounding the basic material, it is not likely deliveries at the higher price will be possible before August.

A significant development in the market over the past month was the arrival of approximately 28 drums of ho or shiu oil from China and reports to the effect that additional small lots were nearby. A good part of this oil, high in linalool content, from which linalyl acetate and other perfume materials are made, will be used by houses importing the oil thus leaving little if any material available for resale here. It was indicated that resale of lots if available would have to bring around \$3.40 to \$3.45 per pound on the basis of import costs.

While importers stated that no further shipment offers of ho oil have been received from China, nevertheless, the small arrivals here tended to lift hopes of an early resumption of trade in this item on a larger scale and is held as a possible wedge to the high prices that makers of linalyl acetate have had to pay for bois de rose and petitgrain which also contain linalool.

### PRICES OF GUMS

Substantial stocks led to some shading of prices on ribbon tragacanth gum. Only a moderate inquiry was reported in the market and the demand was not of sufficient volume to relieve the sales pressure. Other gums such as arabic and benzoin display a soft tone. Sumatra benzoin lost considerable ground because of the keen desire on the part of local houses to move goods. Based on import costs, small sales of gum arabic at 14 cents yielded the narrowest kind of profit, yet local conditions served to offset any desire on the part of importers to move prices higher.

The U. S. Commercial Co., in calling for bids on 1200 cases of Japanese menthol reported that no bids would be entertained at below \$7.24 per pound f.o.b., Japan, which is equivalent to about \$8.10 per pound duty paid. It was the consensus of opinion in trade circles that few buyers would be interested in the article at that price, especially since definite shipping dates were uncertain and the offerings lacked certain other guarantees usually involved in private trading. Four hundred cases the agency stated would be made available for shipment sometime during June and July. Another four hundred cases would be available for July-August and the balance in August and September. Meanwhile an official announcement was made to the effect that private trading would be resumed in Japan in August.

Despite the opportunity of obtaining menthol in Japan it is not likely that any of these goods will reach the United States in time for the heavy consuming season which opens late in August. The quantity of 1200 cases would hardly prove enough to meet the coming winter's requirements. Brazil has very little to offer, and no further lots are in sight from China until late this year.

## Finest FROM FAR AND NEAR

Now, for the first time since the war's end, the Citrus and Allied Essential Oils Company once again offers importations of the finest calibre oils from Italy . . . together with best quality oils from the West Indies and its well-known line of distinctive products from its Brooklyn plant.

### CHOOSE FROM THIS VARIED LIST . . .

- *Imported from Palermo Italy—*  
PURE HAND PRESSED LEMON  
PURE HAND PRESSED ORANGE  
PURE HAND PRESSED MANDARIN  
SWEET ALMOND OIL—  
ITALIAN "SCACCIAÑOCE"  
BRAND

Unquestionably the finest oil obtainable.

## BERGAMOT OIL ORIGINAL CONSORZIO 25 LB. PACKAGE

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by Law . . .

Citrus and Allied Essential Oils Co. is  
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del Bergamotto Reggio Calabria.

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BITTER ORANGE OIL—H.P.N.F.  
(Largest Producers in the World)  
LIMES DISTILLED  
(Scientifically Processed High Citral  
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TERPENELESS, SESQUITERPENE-  
LESS AND CONCENTRATED  
CITRUS OILS  
(Manufactured only in glass at low  
vacuum)  
LEMON—ORANGE—BERGAMOT  
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## HILARY SAYS:

**MAYBE**—you're an Orange Man (not very plentiful in Ireland—but here every Fruit Store has one)—or did you see a June bride last month—with orange blossoms? For that particular fragrance (an' I don't mean—the bride), an orangeade won't fill the bill. But try:

### NEROLI

No. 739	\$ 9.—a pound
No. 260	\$16.— "
No. 556 Extra	\$24.— "

(One of the finest, super-duper-de-whooper-hopla Nerolis made in France—and worth every penny of the 24 bucks. Send 4 samples and c ! !)

### ORANGE BLOSSOM

No. 761	\$ 8.—a pound
No. 632	\$20.— "

### THE Good Old Days . . . . . ?

Sure they werel Mighty good, at that.—B u t : Would you like to operate that'n way again:

Kerosene lamps,—horse-and-buggy or go coaching around in a brand new Model T Ford,—the hand-grind wooden coffee mill;—or: sport one of those handlebar hair-decorations on your upper lip (unless your name is Smith,—you feel like dropping a cough and sport it from the chin downward).

**I**S there anyone who dare deny that the outhouse was a "good-old" American custom,—highly respected and institutional?

Time marches on—with newer ways of doing things!

For the last word in mixing:

### LYSILIA

—"the greatest thing" out of post-war France!

### ORCHIDEELIA

—for a floral bouquet—body-and-soul!

### ALDEHYDILIA

—Aldehyde Top Notel

### FLASOLEE

—another "Must" for fine floral compounds!

### AMBERS

—good old-fashioned fixatives;—believe me, Brother,  
—they'll fix-ya and you'll s t a y fixed!

**T**HOSE Frenchmen weren't kidding when they said LYSILIA is "Sans pareille!"—and "the greatest thing"! Would you like samples?—Just drop us a note!

By the way,—consultations with us—like the samples—are for free.

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# PRICES IN THE NEW YORK MARKET

(Quotations on these pages are those made by local dealers, but are subject to revision without notice)

## ESSENTIAL OILS

Almond Bit, per lb.	4.75@	4.90	Java type	3.85@	4.20	Opopanax	30.00@	37.50
FPA	4.50@	5.25	Cloves, Zanzibar	1.45@	1.60	Orange, bitter	3.35@	3.75
Sweet True	.80@	.90	Coriander	19.00@	22.00	Brazilian	1.70@	2.00
Apricot Kernel	.65@	.85	Imitation	8.75@	12.00	Calif., exp.	1.80@	2.00
Amber, rectified	2.25	Nom'l	Croton	4.75@	5.00	Orris Root, abs. (oz.)	135.00@	
Angelica Root	125.00@	180.00	Cumin	6.35@	6.85	Artificial	36.00	Nom'l
Anise, U. S. P.	.75@	1.00	Dillseed	6.65@	7.00	Pennyroyal, Amer	3.85@	3.95
Aspic (spike) Span.	2.00@	2.50	Erigeron	2.30	Nom'l	European	4.25@	5.00
Avocado	1.35@	1.40	Eucalyptus	1.05@	1.45	Peppermint, natural	8.75@	9.00
Bay	1.35@	1.60	Fennel, Sweet	4.00@	4.80	Redistilled	9.25@	9.75
Bergamot	5.15@	5.75	Geranium, Rose, Algerian	15.50@	20.00	Petitgrain	3.25@	3.75
Artificial	3.75@	4.50	Bourbon	13.50@	15.00	Pimento Berry	5.75@	7.50
Birch, sweet	2.50@	4.50	Turkish	8.00@	9.25	Pinus Sylvestris	4.25@	5.00
Birchar, crude		Nominal	Ginger	8.50@	10.00	Pumillanis	4.25@	4.75
Birchar, rectified		Nominal	Guaiac (Wood)	2.40@	2.60	Rose, Bulgaria (oz.)	40.00@	48.00
Bois de Rose	4.00@	4.35	Hemlock	2.60@	3.00	Synthetic, lb.	50.00@	55.00
Cade, U. S. P.	.70@	.90	Substitute	.55@	.60	Rosemary, Spanish	1.35@	1.75
Cajuput	2.90@	3.20	Juniper Berry	6.10@	7.00	Sage, Spanish	2.40@	3.50
Calamus	20.00@	22.00	Laurel leaf	20.00@	21.00	Sage, Dalmation	5.50@	7.00
Camphor "white" dom.	.65@	1.00	Lavandin	3.00@	3.75	Sandalwood, N. F.	15.50@	17.00
Cananga, native	8.50@	12.00	Lavender, French	8.90@	10.25	Sassafras, artificial	.90@	1.00
Rectified	10.50@	15.00	Lemon, Calif.	3.35@	3.50	Ocotea Cymbarum	.85@	.90
Caraway	5.65@	6.10	Italian	4.00@	4.85	Snake root	22.00@	25.00
Cardamon	25.50@	26.00	Lemongrass	1.60@	1.80	Spearmint	14.00@	14.75
Cassia, rectified, U. S. P.	3.35@	3.75	Limes, distilled	5.25@	5.75	Thyme, red	2.85@	3.05
Imitation	3.00@	3.15	Expressed	11.75@	12.25	White	3.10@	3.25
Cedar leaf	1.10@	1.25	Linaloe	3.75@	4.00	Valarian	32.00@	35.00
U. S. P.	2.50@	2.85	Lovage	95.00	Nom'l	Vetivert, Haitian	28.50@	32.00
Cedar wood	.85@	1.10	Marjoram	5.65@	6.20	Bourbon	33.00@	35.00
Celery	16.50@	19.00	Neroli, Bigarde P.	350.00@	390.00	Wintergreen	6.00@	17.25
Chamomile Roman	250.00@		Petale, extra	265.00@	300.00	Wormseed	5.30@	5.75
Cinnamon bark oil	35.00@	42.00	Nutmeg	7.00@	7.90	Ylang Ylang, Manila	40.00	Nom'l
Citronella, Ceylon	1.25@	1.40	Olibanum	10.50@	11.50	Bourbon	14.00@	21.00

(Continued on page 87)



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(Continued from page 85)

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Bergamot	13.00@	16.00
Grapefruit	65.00	Nom'l
Lavender	19.00@	22.00
Lemon	35.00@	40.00
Lime, ex.	85.00@	100.00
Distilled	46.00@	48.00
Orange sweet	110.00@	135.00
Peppermint	14.50@	16.00
Petitgrain	7.25@	8.00
Spearmint	18.00@	20.00

DERIVATIVES AND CHEMICALS

Acetaldehyde 50%	1.90@	2.75
Acetophenone	1.65@	1.80
Alcohol C 8	4.25@	4.75
C 9	14.00@	
C 10	4.25@	4.50
C 11	14.50@	
C 12	4.25@	4.50
Aldehyde C 8	11.00@	12.00
C 9	19.00@	20.00
C 10	7.00@	8.50
C 11	22.00@	24.00
C 12	15.50@	17.00
C 14 (Peach so-called)	8.75@	9.50
C 16 (Strawberry so-called)	7.65@	8.25
Amyl Acetate	.55@	.75
Amyl Butyrate	.95@	1.10
Amyl Cinnamate	4.50@	5.80
Amyl Cinnamate Aldehyde	2.35@	2.80
Amyl Formate	1.00@	1.25
Amyl Phenyl Acetate	5.95@	6.15
Amyl Salicylate	.87@	.90
Amyl Valerinate	2.00@	2.25
Anethol	.80@	1.15
Anisic Aldehyde	2.60@	3.25
Benzophenone	1.15@	1.30
Benzyl Acetate	.65@	.75
Benzyl Alcohol	.75@	1.00
Benzyl Benzoate	1.05@	1.20

Benzyl Butyrate	2.00@	2.25
Benzyl Cinnamate	3.75@	4.25
Benzyl Formate	2.25@	2.50
Benzyl-Iso-eugenol	9.00@	9.75
Benzyl Propionate	2.00@	2.15
Bornyl Acetate	2.25	Nom'l
Bromstyrol	5.75@	6.35
Butyl Acetate	.19 1/2@	.19 3/4
Cinnamic Alcohol	3.10@	3.60
Cinnamic Aldehyde	1.00@	1.10
Cinnamyl Acetate	4.75@	5.50
Cinnamyl Butyrate	12.00@	14.00
Cinnamyl Formate	10.00@	13.00
Citral, C. P.	4.75@	5.10
Citronellol	7.50@	10.00
Citronellyl Acetate	9.25@	12.00
Coumarin	3.00@	3.50
Cuminic Aldehyde	7.75@	10.00
Diethylphthalate	.38@	.40
Dimethyl Anthranilate	4.55@	5.00
Ethyl Acetate	.35@	.40
Ethyl Anthranilate	5.50@	7.00
Ethyl Benzoate	.75@	1.00
Ethyl Butyrate	.80@	.90
Ethyl Cinnamate	2.55@	3.00
Ethyl Formate	.65@	.75
Ethyl Propionate	.90@	1.00
Ethyl Salicylate	.90@	1.00
Ethyl Vanillin	6.75@	6.80
Eucalyptol	2.70@	3.25
Eugenol	2.55@	3.00
Geraniol, dom.	8.00@	9.75
Geranyl Acetate	7.50@	8.75
Geranyl Butyrate	10.25@	10.75
Geranyl Formate	12.50@	14.00
Heliotropin, dom.	3.35@	3.80
Hydrotropic Aldehyde	6.95@	7.50
Hydroxycitronellal	17.00@	18.00
Indol, C. P.	20.00@	23.00
Ionones		
Beta	8.75@	11.80
Methyl	8.00@	9.25

Iso-borneol	1.30@	1.50
Iso-butyl Acetate	1.05@	1.75
Iso-butyl Benzoate	1.35@	2.50
Iso-butyl Salicylate	2.35@	3.00
Iso-eugenol	3.50@	3.80
Iso-safrol	1.50@	2.00
Linalool	6.45@	6.85
Linalyl Acetate 90%	7.00@	7.50
75%	5.80@	6.20
Linalyl Anthranilate	15.00@	
Linalyl Benzoate	10.50@	
Linalyl Formate	13.00@	15.00
Menthyl	8.50@	8.65
Methyl Acetophenone	1.40@	1.80
Methyl Anthranilate	2.25@	2.40
Methyl Cellulose, f.o.b., ship-		
ping point	.60	Nom'l
Methyl Cinnamate	2.00@	2.50
Methyl Eugenol	4.00@	6.25
Methyl Heptenone	3.50	Nom'l
Methyl Heptene Carbonate	45.00@	60.00
Methyl Iso-eugenol	5.85@	10.00
Methyl Octine Carbonate	24.00@	30.00
Methyl Naphthyl Ketone	3.25@	3.40
Methyl Phenylacetate	2.50@	3.00
Methyl Salicylate	.42@	.45
Musk Ambrette	8.25@	10.00
Ketone	5.10@	5.50
Xylene	1.70@	2.05
Neroline (ethyl ether)	2.00@	2.40
Paracresyl Acetate	2.25@	2.80
Paracresyl Methyl Ether	2.60@	3.50
Paracresyl Phenyl-acetate	4.75@	5.25
Phenylacetaldehyde 50%	2.50@	2.65
100%	4.25@	4.75
Phenylacetic Acid	1.75@	2.25
Phenylethyl Acetate	2.40@	3.10
Phenylethyl Alcohol	2.10@	2.30
Phenylethyl Anthranilate	16.00@	

(Continued on page 89)

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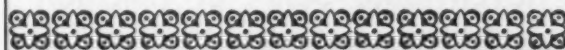
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(Continued from page 87)

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Phenylethyl Propionate	3.90@	4.40
Phenylethyl Valerianate	7.50@	8.10
Phenylpropyl Acetate	5.50@	5.70
Safrol	1.20@	1.60
Scatol C. P. (oz.)	5.35@	5.00
Styrolol Acetate	2.65@	3.00
Vanillin (clove oil)	4.50@	4.65
(guaiacol)	3.00@	3.05
Lignin	3.00@	3.05
Vetivert Acetate	75.00@	80.00
Violet Ketone Alpha	18.00	Nom'l
Beta	15.00	Nom'l
Methyl	6.50	Nom'l
Yara Yara (methyl ester)	1.85@	2.20

#### BEANS

Tanka Beans Surinam	.85@	.95
Angostura	1.70@	1.80
Vanilla Beans		
Mexican, whole	10.50@	12.00
Mexican, cut	9.00@	9.50
Bourbon	7.75@	8.00
Tahiti	4.50@	5.00

#### SUNDRIES AND DRUGS

Acetone	.09@	.12
Almond meal	.25@	.35
Ambergris, ounce	8.50@	18.00
Balsam, Copaiba	.90@	1.10
Peru	1.05@	1.25
Beeswax bleached, pure		
U. S. P.	.70@	.71
Yellow, refined	.64@	.65
Bismuth, subnitrate	2.15@	2.28
Borax, crystals, carlot ton	55.50@	58.00
Boric Acid, U. S. P., ton	129.00@	133.50
Calcium, phosphate	.08@	.08 3/4
Phosphate, tri-basic	.0635@	.0680

Camphor pwd., domestic	.75@	.77
Castoreum, natural	12.00@	13.00
Cetyl, Alcohol	2.10@	2.35
Chalk, precip. bags, clts.	.027@	.03
Cherry Laurel Water, jug, gal.	2.10@	2.50
Citric Acid	.23@	.26
Civet, ounce	8.00@	22.00
Cocoa, Butter, bulk	.38@	.40
Cyclohexanol (Hexalin)	.21 1/2@	.22
Fuller's Earth, Mines ton	27.00@	30.00
Glycerin, C. P.	.40 1/4@	.40 3/4
Gum Arabic, white	.29@	.32
Amber	.14@	.14 1/2
Powdered, U.S.P.	.19 1/2@	.21
Gum Benzoin, Siam	4.00@	4.50
Sumatra	.50@	.60
Gum Galbanum	1.00@	1.10
Gum Myrrh	.48@	.50
Henna, pwd.	.35@	.40
Kaolin	.05@	.07
Labdanum	5.00@	7.00
Lanolin, hydrous	.25@	.26
Anhydrous	.28@	.29
Magnesium, carbonate	.11@	.12 1/4
Stearate	.48@	.49
Musk, ounce	28.00@	55.00
Olibanum, tears	.26@	.35
Siftings	.12 1/2@	.14
Orange Flower Water, gal.	1.75@	2.25
Orris Root, Italian	.24@	.35
Paraffin	.04@	.06
Peroxide (hydrogen) N.S.P.		
bbls.	1.10@	1.75
Petrolatum, white	.07 1/4@	.09 3/4
Quince Seed	1.65@	1.90
Rice Starch	Nominal	
Rose Leaves, red	3.45@	4.00
Rose Water, jug (6.6 gal.)	4.50@	6.00
Rosin, M. per cwt.	8.46@	
Salicylic Acid	.40@	.42

Saponin	1.75@	2.00
Silicate, 40°, drums, works,		
100 pounds	.95@	1.20
Soap, neutral, white	.20@	.25
Sodium Carb.		
58% light, 100 pounds	1.60@	2.70
Hydroxide, 76% solid, 100		
pounds	2.90@	3.75
Spermacet	.45@	.59
Stearate Zinc N.S.P.	.47@	.48
Styrax	1.25@	1.60
Tartaric Acid	.50@	.50 1/2
Tragacanth, No. 1	3.75@	4.30
Triethanolamine	.19 1/2@	.20 1/2
Violet Flowers	2.00	Nom'l
Zinc Oxide, U. S. P. bbls.	12 3/4@	.14

#### OILS AND FATS

Castor No. 1, tanks	.29@	
Cocanut, Ceylon type,		
Atlantic ports, tanks	.12 1/2@	
Corn, crude, Midwest, mill,		
tanks	.21 1/2@	
Corn Oil, distilled, tanks	.24 1/2	Nom'l
Cotton, crude, Southeast,		
tanks	.22	Nom'l
Grease, white	.11 3/4@	.12
Lard, Chicago	.18 3/4@	Nom'l
Lard Oil, common, No. 1		
Chicago, bbls.	.18@	.19
Palm Niger, drums	Nominal	
Peanut, refined, drums	.25	Nom'l
Red Oil, distilled drums	.18 3/4@	.19 3/4
Stearic Acid		
Triple Pressed	.30 1/2@	.31 1/2
Double Pressed	.27 1/2@	.28 1/2
Tallow, acidless, drums,		
Chicago	.19 1/2@	
Tallow, N. Y. C., extra	.11 3/4@	
Whale oil, refined		Nominal

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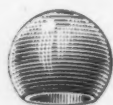
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The Development of Drug Store Marketing	Advertising Drug Store Products
Packaging the Product	Types of Displays
Dealer Types and the Problems of Selling to them	Merchandising the Ethical Product
Trade Practices	Price Legislation
Organization of Marketing Division	The Problem of Financing
Developing Marketing Plans	The Export Market
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- 2—Stokes "R" single punch Tablet Machines, 2½" dia., 7-Stokes "F", ¾".
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- 4—#1 SH Micro-pulverizers ea. with 2 tot. encl. fan-cooled motors.
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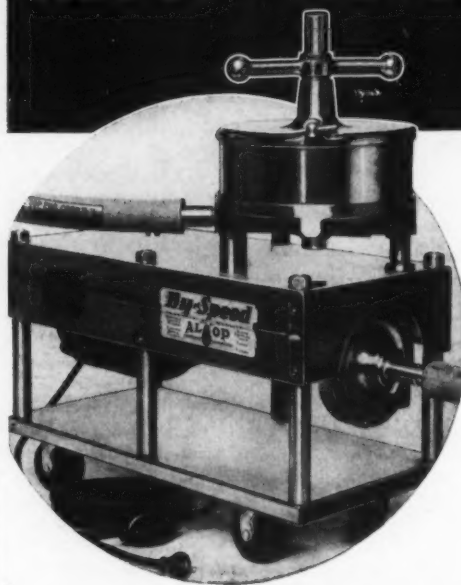
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# Wool Wax Alcohols in Cosmetics

EDGAR S. LOWER\*

This article is concluded in this issue of THE AMERICAN PERFUMER.

## OXIDIZED CHOLESTEROL

Oxycholesterol as mentioned earlier in this article is one of the substances which has been regarded for a considerable time as a constituent of wool wax alcohols is a form of oxidized cholesterol, to which the name of "oxycholesterol" was given. It has also been regarded as the effective emulsifier of these alcohols. The chemicals character of this product, which appears to be a form of hydroxy-cholesterol (of which there are quite a number) has not been elucidated.

Certain tests have shown that some form of hydroxy-cholesterol may be present in wool wax alcohols. One well-known writer for the cosmetic industry made the observation that in the U. S. A. and in Great Britain, certain fractions and preparations of wool and wax and wool wax alcohols are called "oxycholesterol" and "oxycholesterol bases" and suggested that these terms are faulty, because in all probability only small quantities of this substance are contained in wool wax and these do not justify the application of such terms.

The product is claimed to be obtained from wool wax alcohols by dissolving 100 parts in 200 parts of methyl alcohol by heating and then allowing to cool to 15 deg. C. The separated insoluble fraction is then dissolved in a three to one mixture of methyl acetate and alcohol. The heavy totally insoluble fraction is the oxycholesterol but it is not absolutely pure. There is a further light insoluble fraction which yields a pure product when crystallized from alcohol.

It has been prepared by oxidation of cholesterol with organic and inorganic oxidizing agents, including selenium dioxide and benzoyl peroxide.

From the action of the selenium dioxide, two types of

"oxycholesterol" have been obtained and described, one (probably the essential component of the "oxycholesterol" of commerce);

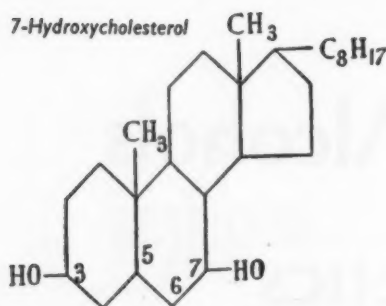
Chemical formula	$C_{27}H_{46}O_2$
Melting point	176 deg. C.
Specific optical rotation	$(\alpha)_D^{20}$ = - 60 deg.
Molecular weight	402

and the other:

Melting point	236 deg. C.
Specific optical rotation	$(\alpha)_D^{20}$ = + 8 deg.

On reacting the former with water at 200 deg. C. it is re-arranged to cholestenone, which as we have seen earlier, is used to prepare progesterone. "Oxycholesterol" contains two hydroxyl groups and one double bond. In the patent literature, comparisons have been made between the "oxycholesterol" prepared by the action of benzoyl peroxide and 7-hydroxycholesterol obtained by the treatment of 7-oxocholesteryl acetate with aluminium isopropylate. (The production of the oxocholesteryl acetate has been described above under dehydrocholesterol); this hydroxycholesterol forms white needles crystals melting at 170 deg. C. and differs essentially from the former in many respects. The position of the second hydroxyl group which is said to be introduced into the cholesterol molecular by benzoyl peroxide, is apparently not known as, on the whole, the chemical character of the product has still to be elucidated. The benzoyl peroxide reaction product, it is reported, is an amorphous light yellow product. 7-hydroxycholesterol is not easily soluble in cold petroleum ether, as is "oxycholesterol." The structural formula of 7-hydroxycholesterol is given on the following page.

\*Technical Director, Croda Limited, England.



It is an intermediate product in the manufacture of 7-dehydrocholesterol (Pro-vitamin D<sub>3</sub>). It has been found in the oxidation products resulting from the action on cholesterol, in aqueous colloidal solution, of molecular oxygen under the influence of inorganic catalysts and sunlight. There is reference to another hydroxycholesterol, described as a stereoisomer of that mentioned above and known as (b)-7-hydroxycholesterol to differentiate it from the former to which these authors give the term (a)-7-hydroxycholesterol. The (b)-product has the characteristics:

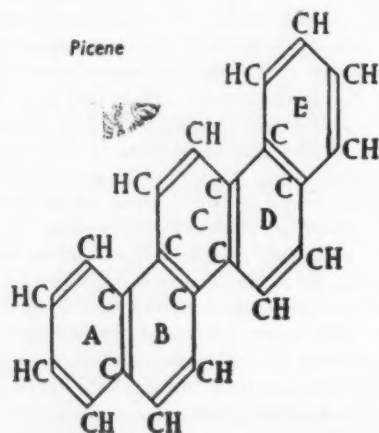
Melting point	184.5 deg. C.
Specific optical rotation	(a) $\frac{20}{D}$ = -86.4 deg.

It was obtained by the action of alkaline potassium permanganate on cholesteryl hydrogen phthalate.

#### TRITERPENE ALCOHOLS

At one time it was believed that wool wax alcohols contained cholesterol and "ischolesterol" predominantly but, as already mentioned, it is now known that the "ischolesterol" fraction is, in fact, a mixture of unsaturated alcohols classed as triterpene alcohols. They have 30 carbon atoms and a structure similar to picene, consisting of five six-membered rings. Sterols are precipitated in the main by digitonin but the triterpene alcohols are not.

This mixture of alcohols has been produced on a commercial scale from careful fractionation of the total unsaponifiable matter of wool grease, by distillation with the aid of superheated steam or ether gas, giving 40 per cent yields including some products of oxidation. It has been obtained in the form of a pure white solid. It consists of up to 20 per cent agnosterol plus 80 to 100 per cent lanosterol and is insoluble in methyl alcohol.



Wool wax alcohols from which this binary mixture has been removed are said to have increased emulsifying properties.

Claims to a male acting sex hormone comprising an extract of these two mixed alcohols have been made. Two grams of the mixture are dissolved in benzene and shaken with sixty per cent alcohol. On evaporation of the aqueous alcoholic layer, a solid and colorless organic solvent soluble substance is obtained, yielding approximately ten milligrams. It has properties different from known male acting hormones.

#### AGNOSTEROL

Agnosterol, as will be noticed in the composition of the mixture above, is not always to be found as a constituent of wool wax alcohols, and, for this reason, attention was soon directed to the possibility of its formation by the action of the caustic alkalis (used in preparing these mixed alcohols) on the major constituent of the "ischolesterol" mixture, lanosterol, but this was found not to be so. The name lanosterol was originally used to identify the "ischolesterol," being less committal and misleading than the latter term. It was not then known that this product was a mixture.

Agnosterol crystallizes in needles from ethyl alcohol, and has the characteristics:

Chemical formula	C <sub>30</sub> H <sub>48</sub> O
Molecular weight	424
Melting point	162 deg. C.
Specific optical rotation	(a) $\frac{20}{D}$ = -70.4 deg.

It differs from lanosterol in that it has one reactive double bond and two inactive double bonds. Two of these bonds are conjugated. An agnosteryl derivative, dehydroagnosteryl acetate, has been prepared from lanosterol and found to be identical with the same acetate prepared from agnosterol. This supports the knowledge that agnosterol and lanosterol differ only in the number and position of their double linkages.

Six years after the original isolation of agnosterol, similarities which exist between this chemical and theelin, the natural follicular hormone, suggested agnosterol as a starting material for the synthesis of artificial oestrogenic substances and, in fact, such products were actually produced possessing high oestrogenic activity, and forming yellowish, glassy, jelly-like gums. The process used was one of oxidation by means of chromic oxide. The resultant active agents are not, however, identified. Untreated agnosterol possessed no activity when tested similarly.

#### LANOSTEROL

Lanosterol forms the greater part of the methanol insoluble matter of wool wax alcohols. The molecular weight of this product is the same as the resin alcohols (a)- and (b)-amyrenols and lupeol to which it and agnosterol are related. Some properties of lanosterol are:

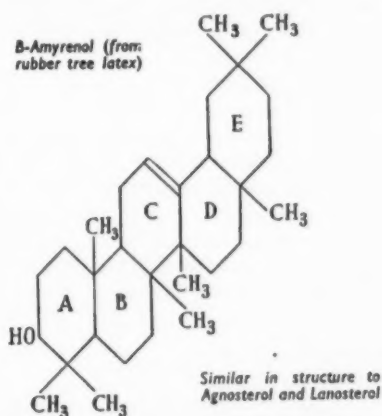
Chemical formula	C <sub>30</sub> H <sub>48</sub> O
Melting point	140.5 deg. C.
Specific optical rotation	(a) $\frac{20}{D}$ = -57.9 deg.
Molecular weight	426
Iodine value	170.5

Also present are minute amounts of  $\gamma$ -Lanosterol and dihydrolanosterol. The iodine value was determined using

Dam's method, which has proven very reliable for sterols, bromine being used as the reactant. It contains two saturated double linkages common to triterpene alcohols. One of these is inert and resistant to hydrogenation, and this point has been suggested as the possible cause of the discrepancies which arise when the iodine value of wool fat and derivatives are compared by different laboratories.

It is pointed out that one double bond absorbs iodine and bromine rapidly, but the second reacts but slowly over a long period. Further, bromine in its reaction with lanosterol frequently effects substitution, with the evolution of hydrogen bromide, even at low temperatures. It is also pointed out that the bromine or iodine values obtained for wool fat depend entirely on the experimental conditions ruling during determination and temperature plus choice of solvent.

Lanosterol is apparently very susceptible to oxidation (giving a mixture of ketones if chromic anhydride is used) and shows a marked tendency to resinification. It does not give the strong color reaction characteristic of sterols. It shows absorption of ultra-violet light. It is soluble in chloroform, more difficultly soluble in ethyl alcohol, acetone, petroleum ether and very sparingly in methyl alcohol.



At the moment there is no published information to indicate the possible uses of lanosterol, except in combination with agnosterol and epinephrine for the treatment of asthma and, to produce increased prolonged blood pressure. The amyrenols, to which the product is most close related and which have already received a great deal of attention, are also still the subject of laboratory manipulation, a technical source having yet to be found apparently.

The hormone-like isolate mentioned under agnosterol may be pointer. Resin alcohols have been used as emulsifying agents.

Lanosterol is probably the most important constituent of the wool wax alcohols conglomerate after cholesterol. Its possibilities as a cosmetic ingredient have still to be investigated.

The solubility of the crude product in seven solvents at various degrees C. is as shown in the table.

It is soluble in chloroform. Crude lanosterol gives benzoates which are very slightly soluble in hot alcohol, more so in hot acetone, but easily so in ether. The chlorides dissolve readily in ether, but less so in alcohol. Cryptosterol, a subsidiary yeast alcohol has now been found to be identical with lanosterol.

PERCENTAGE OF SOLUBILITY OF LANOSTEROL

	0	10	20	30	40	50
Acetone	1.3	1.5	2.5	3	...	...
Benzene	...	1.25	2.25	3.5	5.5	8.5
Dioxane	...	...	...	9	13	20
Ethyl alcohol 94 per cent	...	1.5	1.75	3	5.6	...
Methyl alcohol	0.25	...	0.33	...	0.5	0.75
Ethyl acetate	2	3	3.25	5	8.5	13.5
Petroleum benzene	0.55	0.75	1.3	1.66	3	5.5

Like the parent substances and the derivatives so far discussed, lanosterol produces water-in-oil emulsions when blended with fatty diluents and mixed with water.

A cosmetic cream formula containing a good quantity of the crude triterpene alcohol has been given as follows:

Tragacanth gum	3.0
Glycerin	8.0
Water	45.9
Sodium benzoate	0.1
Lanosterol (crude)	14.0
White beeswax	4.0
Liquid paraffin	25.0

The first four ingredients are dispersed in the usual manner, cooled and small portions of a mixture of the latter added with stirring. The product is homogenized.

#### OTHER ALCOHOLS

Only two alcohols have been identified out of those that are left after all sterols and triterpene alcohols have been separated from wool wax alcohols (this can be partly accomplished by solution of the whole in acetone from which the bulk of optically inactive alcohols separate). These two are new alcohols and have not been found elsewhere than in wool wax. They are lano-octo-decyl alcohol,  $C_{18}H_{38}O$  a monohydric alcohol of molecular weight 270, melting at 42 deg. C. and lanyl alcohol  $C_{21}H_{40}(OH)_2$ , a dihydric alcohol of molecular weight 386. Although this alcohol seems to be unsaturated, it does not absorb bromine at room temperature.

There are other alcohols to be identified and in the past, reference to the following has been made. (a) "Carnaubyl" alcohol, reported to retain water most tenaciously and to form a tallow-like mass with even 75 per cent water. (b) "Ceryl" alcohol. Recent reference to this type of alcohol, however, points to the fact that they are invariably mixtures of alcohols and it is proposed that such a name be abandoned. (c) Cetyl alcohol. There seems to be more evidence to suggest that this alcohol is present more than any other of this series. (d) "Lanolin" alcohol. (e) Other long chain alcohols of 26 and 27 carbon atoms. (f) Unsaturated alcohols of ten and twelve carbon atoms.

The uses of this type of alcohol are very well developed and include, of course, wetting agents, condensation products, lubricants, textile assistants, acetals, amides, esters, ethers, etc.

#### THE MIXED WOOL WAX ALCOHOLS

Having given some details of the individual alcohols which make up the wool wax alcohols mixture, consideration can now be given to the mixture itself, as available to industry, usually in the form of small lumps or large blocks.

As produced in Great Britain the alcohols are a very light brown to yellow wax-like mixture, similar in many respects to beeswax but more brittle. Warmed from 5 to 65 deg. C. the mass alters in physical state from a brittle

wax-like product to a very viscous liquid which takes many hours to reset to its original state. These alcohols are extremely resistant to oxidation, at least in depth, and do not decompose under normal conditions of storage. It has been shown that one main constituent of cholesterol has, to a small degree an inhibitory action against the decomposition of oils and fats in which it is dissolved and similar properties have been attributed to these mixed wool wax alcohols.

Upon standing undisturbed for a prolonged time, say six months, the alcohols mixture sets to a very tough mass and assumes a mirror-like surface brightness due, no doubt, to oxidation and resinification, possibly on the same lines as cholesterol, as mentioned earlier. Means have been found to accelerate this modification with the object of using such derivatives as coating compositions. It will not polish, but it breaks with a clean fracture.

An average analysis of wool wax alcohols of British origin is given in Table 1.

The composition of mixed wool wax alcohols calculated from the various quantitative figures given in the literature for the individual alcohols is given below.

It will be seen from the test figures following that this mixture of alcoholic bodies differs in many respects from true waxes and wax-like materials. Probably the more interesting feature, apart from low acidity and saponifiable content, is the high or comparatively high melting point, taking for comparison spermaceti, cetyl alcohol, stearic acid and some synthetic and mineral waxes, etc.

Ash content	0.21	per cent
Acid value	1.8	per cent
Acetyl value	130	
Cholesterol	32.4	per cent
Ester value	2.0	per cent
Iodine value (Wijs)	45.5	per cent
Melting point	60.5	per cent
Mean molecular weight	377	

pH value	5.7	per cent
Specific optical rotation	(a) <sub>D</sub> <sup>20</sup> —11.8	per cent
Saponification value	8	
Unsaponifiable matter	97	per cent
Viscosity at 200 deg. F. (Redwood No. 1)	216	seconds
Water soluble matter	1	per cent

The solubility of wool wax alcohols in various solvents is given in Table 2.

The uses of wool wax alcohols fall under four main headings:

1. Usage as a wax mixture because of the products' similarity to waxes (e.g. in insulation).
2. Usage as mixed fatty alcohols because of their aliphatic alcohol content (e.g. sulphonated alcohols).
3. Usage as sterols because of their sterol content, especially as crude cholesterol derivatives, etc.
4. Usage as emulsifying agents, owing to their strong tendency to produce water-in-oil emulsions (e.g. in ointment bases).

—or the uses can be further divided into two main groups. The first contains the many applications of the alcohols as purchased and without any further treatment, e.g., as true wax substitutes or emulsifying agents, plasticizers, etc., whilst the second group contains the uses of the alcohols when treated to give valuable reaction products, e.g., wetting agents or sterol derivatives.

Like lanolin wool wax alcohols enter into the formulation of some adhesive medical plasters.

Alone or in conjunction with other water-in-oil emulsifying agents, wool wax alcohols, including the purer cholesterol fractions and selected esters, form the basis of the majority of "absorption bases."

The use of wool wax in the cosmetic industry is now well known and well established. This product is used as the basis of many cosmetics which are emulsions of the

TABLE I

Group	Name	Formula	M.W.	M.P.°C.	B.P.	50 D4	Acetyl Value	† (a) <sub>y</sub>	IV	Per Cent*
Aliphatic Alcohols	"Ceryl"	C <sub>36</sub> H <sub>74</sub> O	382	79	...	...	...	...	...	12
	Cetyl	C <sub>16</sub> H <sub>34</sub> O	242	49	190°-15 mm.	0.810	197	...	47	
	"Carnaubyl"	C <sub>24</sub> H <sub>48</sub> O	354	68.5	...	...	...	...	...	1
	Lanolin	C <sub>12</sub> H <sub>24</sub> O	194	...	...	...	...	...	...	12
	Lano-octadecyl	C <sub>18</sub> H <sub>36</sub> O	270	42.5	...	...	...	...	...	
	Lanyl	C <sub>21</sub> H <sub>42</sub> O <sub>2</sub>	326	78.5	...	...	...	...	...	...
	Long chain Unsaturated	C <sub>26-27</sub> C <sub>16-12</sub>	...	...	...	...	...	...	...	...
Sterols	Cholestanol	C <sub>27</sub> H <sub>48</sub> O	388	141.5	...	...	...	(a) 22 D +27.4°	...	2.5-5.1
	Cholesterol	C <sub>27</sub> H <sub>46</sub> O	386	146	...	1.052	135.5	(a) 20 D -31.12°	68.3	25.5-33.1
	7-Dehydro-cholesterol	C <sub>27</sub> H <sub>44</sub> O	384	142.5	...	...	...	(a) 22 D -113.6°	...	...
	Ergosterol	C <sub>28</sub> H <sub>48</sub> O	396	160.5	...	...	...	(a) 20 D -132.3°	...	0.002-0.0035
	"Metacholesterol"	...	...	140.5	...	...	...	...	...	...
	"Oxycholesterol"	C <sub>27</sub> H <sub>46</sub> O <sub>2</sub>	402	40	...	...	...	...	...	...
Triterpene Alcohols	Agnosterol	C <sub>30</sub> H <sub>58</sub> O	424	162	...	...	...	(a) 19 D +70.4°	...	0-5.3
	Lanosterol	C <sub>30</sub> H <sub>56</sub> O	426	140.5	...	...	...	(a) 15 D +57.9°	170.5	21.3-26.6

\*Except for the percentage figures given for the first two sterols mentioned and the triterpene alcohols, much faith cannot be placed in these figures until further evidence appears. The coloring matter of wool wax alcohols is reported to consist mainly of a porphyrin, termed "Lanaurin," C<sub>33</sub>H<sub>32</sub>O<sub>10</sub>N<sub>4</sub>, probably related to bilirubin.

water-in-oil type such as cold creams, certain cleansing creams and nourishing creams. If the product does not form the base of such cosmetics, it is usually found in the composition in the capacity of an emollient, softening agent, stabilizer, plasticizer, etc.

These uses are traceable to the peculiar composition of wool wax, which does not seem to have any commercial available alternative able to take its place chemically.

The emulsifying properties form one of the most important characteristics of mixed wool wax alcohols, and were responsible to a great extent for their recent introduction into the British Pharmacopoeia. These alcohols have the ability to emulsify large quantities of water, either in their original form when plastic cream-colored preparations result resembling hard plasticine; or blended down with hydrocarbons, including the liquid, soft and hard paraffin, kerosene, white oils and white spirit. Fatty alcohols such as oleyl can also be used as diluents, or glycol ethers, aliphatic alcohols, etc.

When such blends are agitated with water, or when water is stirred into the more solid products intermittently, emulsions of the water-in-oil type result. The use of the specific solvent kerosene in this manner in conjunction with wool wax, forms the subject matter of a recent patent specification. This product consists of a mixture of approximately 72 per cent kerosene, 14 per cent wool wax and 14 per cent wool wax alcohols. Typical of the cosmetics it is possible to produce using this base are the following:

#### 1. CLEANSING CREAM

Wool wax alcohols, wool wax, kerosene	7	per cent
White oil	20	per cent
Soft paraffin	5	per cent
Hard paraffin	0.5	per cent
Water	67.5	per cent

#### 2. SMELLING SALTS

Emulsifying combination	5	per cent
Liquid paraffin	5	per cent
Ammonia solution 0.880	50	per cent
Water	40	per cent

#### 3. HAND CREAM

Emulsifying combination	2	parts
Liquid paraffin	2	parts
Olive oil	0.5	parts
Soya bean oil	0.5	parts
Water	23	parts
Citric acid (If desired).	a trace.	

#### 4. BLEACHING CREAM

Emulsifying combination	5	per cent
Hydrogen peroxide of 25 volumes strength	80	per cent
Water	15	per cent

These cosmetics are prepared by warming the material other than water to a clear solution, when the cold water (containing any water-soluble materials) is agitated into the solution. The stiffness of the emulsion produced depends upon the length of time allowed for agitating. The longer the duration, the stiffer the emulsions produced.

The main reason for quoting these formulae at the present juncture is because they very well reflect the potential and powerful emulsifying properties of wool wax alcohols (especially in conjunction with wool wax). For instance, in formula No. 1 there is approximately only 2.01 per cent emulsifying agent and in No. 2, only 1.5 per cent. In the production of oil-in-water emulsions these figures would not be significant, but in the formulation of water-in-oil

emulsions of practical value to the cosmetic chemist they are smaller than usual.

It is of interest to note here that similar powerful properties of emulsification to those possessed by the kerosene/wool wax, alcohols/wool wax solution are to be found in white spirit or petroleum ether solutions of the heavy metal salts of wool wax acids especially the aluminium soaps.

Which single alcohol or group of alcohols is responsible for the emulsification properties of the wool wax alcohol mixture is not known, although this very factor has been the subject of specific investigations, in which the mixture was split up into four fractions, (1) an agnosterol lanosterol fraction, (2) an aliphatic alcohol fraction, (3) cholesterol, (4) an amorphous gummy mass of an uncrystallizable nature. Each fraction was then tested (by preparing several emulsions for each, containing differing quantities of water) for its emulsifying properties. A blend of 3 per cent of each fraction in petroleum jelly was used.

It was concluded from these experiments that neither

Table 2  
SOLUBILITY AT 15/20 DEG. C.

	Wool wax (30% by W.)	Wool wax Alcohols (20% by W.)	Wool wax Acids (20% by W.)	Wool wax Cholesterol "Kathro" (5% by W.)
CS Completely soluble				
SD Very slight deposit				
SS Substantially soluble				
SI Substantially insoluble				
CI Completely insoluble				
Amyl alcohol	SS	SD	SS	CS
Amyl acetate	SS	SI	SS	SD
Amyl formate	SS	SI	SS	CS
Acetal solvent	SS	SI	SS	SD
Absolute alcohol	SI	SS	SS	SI
Arachis oil	SS	SS	SS	SS
Butyl alcohol	SS	SI	SS	SD
Butyl acetate	SS	SI	SS	SD
Butyl lactate	SS	SI	SS	SI
Butyl oleate	..	SS	SS	SI
Butyl propionate	SS	..	SS	SD
Benzyl alcohol	SI	SS	SS	SD
Carbon tetrachloride	SD	CS	SD	SS
Castor oil	SS	SS	SS	SS
Cyclohexanol	SS	SD	SS	SI
Cyclohexanone	SS	SI	SS	..
Chloroform	..	CS	SD	CS
Cyclohexylamine	..	..	SS	SD
Dipentene	SD	SD	SS	SS
Dibutyl phthalate	SS	SI	SS	SD
Diamyl phthalate	SS	SI	SS	SD
Ethylene glycol mono-ethyl ether	SI	SS	SI	SI
Ethylene glycol mono-butyl ether	SS	SD	SI	SI
Ethylene glycol mono-methyl ether	SI	SI	SI	SI
Ethylene glycol mono-methyl ether acetate	SI	SI	SS	SI
Ethyl alcohol (Ind. Meth. Spirits)	SI	SI	SI	SI
Ethyl acetate	SS	SI	SS	SI
Ethyl lactate	SI	SI	SS	SI
Ethyl oleate	SS	SS	SS	SI
Ethyl ether	SD	SI	SD	SD
Ethyl palmitate	..	..	SS	SI
Ethylene dichloride	SD	SS	SS	SI
Hexyl alcohol	..	SI	SS	SD
Isopropyl alcohol	SS	SI	SS	SD
Isobutyl alcohol	..	SI	SS	SD
Kerosene	SS	SS	SS	SS
Liquid paraffin	SS	SS	SS	SS
Methyl cyclohexanol stearate	SS	SS	SS	SI
Methyl cyclohexanol	SS	CS	SS	CS
Methyl cyclohexanol acetate	..	SI	SS	CS
Methyl alcohol	SI	SI	SI	SI
Methyl ethyl ketone	SS	SI	SS	SI
Mineral oil (light)	SS	SS	SS	SD
Morpholine	..	..	CS	CS
Petroleum ether	SD	SI	SS	SI
Toluol	..	CS	..	..
Trichloroethylene	CS	CS	SD	SD
White spirit	SS	SD	SS	SI
Xylol	SD	SD	SD	CS

fraction was responsible for the property of the mixed alcohols. It was also found that cholesterol mixed with the esters is a better emulsifying agent than the sterol used alone. This is also true of the mixture of wool wax alcohols (crude cholesterol) and their mixed esters, wool wax (crude cholesterol esters.) The emulsifying properties of wool wax have in the past been attributed variously to its free alcohol content, its "oxycholesterol" content, "meta-cholesterol" content and isocholesterol content. A more general statement attributes this property to its unsaturated alcohols, together with the sterol esters of the lower fatty acids.

In order to compare the results from wool wax and its derivatives with other materials, a series of experiments was carried out to determine the effect of certain additives on the emulsifying properties of a hydrocarbon base. The agents selected for examination were melted with a standard hydrocarbon base consisting of 75 per cent by weight of amber petroleum jelly B.P. and 25 per cent by weight of liquid paraffin B.P. The same amount, 5 per cent of each additive, was used in each case, 100 grams of the mixture being prepared and poured into the brass emulsifying machine illustrated, and allowed to cool with stirring to 20 deg. C. The first portion, ten ml. of ordinary potable water, was then added and the machine closed, and the contents of the machine pumped 60 times per minute, forcing the mixture inside to pass through the perforated plunger twice every second. The top of the machine was then detached and the emulsion examined. The emulsion was then stirred once or twice with a flat-ended wooden spatula to disperse any of the original emulsion base from the bottom of the mixer. This was done only after the first ten ml. of water has been emulsified and not after subsequent additions. No attempt was made to eliminate air from the machine.

If a little of the emulsion so prepared (about 0.3 ml.) was placed on a microscope slide and the finger moved over it with only gentle pressure, one of two things usually happened. Either the emulsion would break up into small islets covered with a film of moisture, causing the finger to slip over them instead of spreading the same, or the emulsion would spread smoothly. This is admittedly a rather rough method of judging saturation point, but proved sufficiently accurate for comparison to be made. The results do not, of course, give any indication of the ultimate stability of the emulsion prepared. It should also be noted that in the case of the various wool wax derivatives at least (the other materials have not yet been simi-

larly tested), the figures do not actually indicate the total amount of water that these hydrocarbon mixtures will absorb, for in the case of wool wax, for example, a figure of 300 to 500 ml. can be reached before it becomes impossible to emulsify further quantities of water into the base, using this machine. These latter emulsions are, of course, of no practical value and as a testing method this procedure consumes a good deal of time.

The figures in Table 3 represent the number of ml. of water it was found possible to incorporate into 100 gms. of various bases; producing the first indication of "slipping" point when tested as described. The figures are given to the nearest 10 ml. The hydrocarbons mixture alone, i.e., without any agent added, gave a water absorption value of 20.

The applications and potential applications of wool wax alcohols in cosmetic preparations have been described as ranging from dispersing and emollient agents in lipsticks, to biological or active ingredients in hair tonics and from forming the basic constituents of eyebrow pencils to the active or stabilizing agents in face and hair creams.

Below are given examples of the various types of cosmetic products which may be prepared with the aid of mixed wool wax alcohols, which in most cases are used as the fundamental emulsifying agent. Parts are by weight unless otherwise stated.

These formulae should not be regarded as finished products, although, of course, in many cases they are, but rather they are given as beginnings from which sound products may be developed.

#### COLD CREAMS

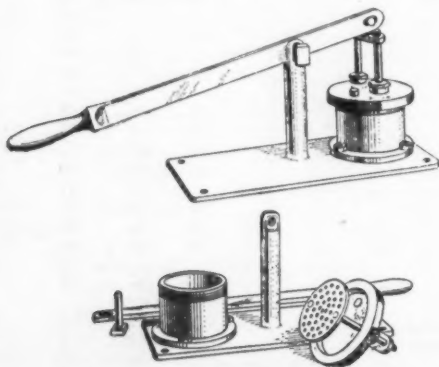
	(a)	(b)	(c)
Wool wax alcohols .....	0.3	3	5
Vegetable oil .....	..	12.5	..
Beeswax .....	15	7	..
Hard paraffin .....	..	1.5	..
Liquid paraffin .....	50	37.5	40
Soft paraffin .....	..	..	10
Spermaceti .....	..	7	..
Ceresin .....	..	2½	10
Borax .....	1	0.5	..
Water .....	33	28.5	35

A general procedure of manufacture is applicable to most of the water containing alkali-free cosmetic formulae given. Two variations have been found successful in this respect. The first and the more generally used method consists of melting all the fatty constituents of the formula together and cooling the melt (with stirring if the nature of the ingredients require this), until the temperature has fallen to 40 deg. C. At this point the water containing any water-soluble ingredients is gradually added in small proportions at a time, making certain that one addition has been well incorporated before a further one is made.

#### SPORTS CREAM

Wool wax alcohols .....	2.5
Stearyl alcohol .....	0.8
Soft paraffin .....	27.9
Lanolin .....	8.0
Titanium dioxide ..	1.0
Water .....	60.7

While many of the cosmetic products outlined here contain no materials which are likely to go rancid and, therefore, theoretically do not call for preservatives, it is always advisable to include these, guarding, for instance against the influence of the containers in which the material is to be filled, ultimate exposure, etc.



Brass Emulsifying Machine

#### MAKE-UP BASE

Wool wax alcohols	1.5
Soft paraffin	11.0
Ozokerite	1.8
Liquid paraffin	18.0
Zinc oxide	12.0
Insoluble color	q.s.

This base is intended for use in the manufacture of cream rouge and eye shadow.

#### MASSAGE PREPARATIONS

	(a)	(b)
Wool wax alcohols	5	1
Liquid paraffin	40	20
Sesame oil	55	76
Lecithin		1
Lanolin		2

Mixed wool wax alcohols are used in lipstick manufacture as emollient and also as aids to the dispersion of the various pigments and dyestuffs used. The frequent difficulty encountered, for instance, in the dispersion of eosin is greatly reduced if about 10 per cent of wool wax alcohols is included in the formula.

#### LIPSTICK BASE

Wool wax alcohols	20
Beeswax	22
Soft paraffin	10
Cocoa butter	3
Cetyl alcohol	5
Castor oil	10

The wool wax alcohols will give a finer dispersion of color and their emollient effect will assist in keeping the lips from cracking and give a smoothness to the product difficult to procure by other means.

Wool wax alcohols, as stated earlier, usually contain more than 30 per cent free cholesterol, and therefore a given cholesterol content, say 1 per cent in any cosmetic product may be achieved by incorporating 3 to 3.5 per cent of the alcohols. Their inclusion in emulsions as the emulsifying agent has the effect also of the addition of an emollient.

Wax alcohols are included in cosmetics for many reasons. For instance, they have the effect, in differing degrees, of producing soft creams; they all have an emollient effect on the skin and give a very smooth and satisfactory "feel." They improve the texture of creams of the vanishing cream type. They are good emulsion stabilizers, apart from being emulsifying agents. Some help to suppress "shine" imparted to the skin by many creams. They have also had attributed to them the quality of being able to act as effective penetrating vehicles for absorption into the skin, with or without the inclusion of antiseptic ingredient, etc., they have a stiffening effect on many creams and are capable of increasing the viscosity of many oils, mineral and otherwise. They have also been included on lists of cosmetic ingredients capable of increasing the viscosity of soapless shampoos.

An interesting property of wool wax alcohols is that of being able to dissolve in aqueous soap solutions which, in turn can be used for the solution of certain hydrocarbons. They also improve the emulsifying properties of many soaps, e.g., ammonia soaps. The stability of wool wax alcohol emulsion has been attributed, to a certain degree to the pH value of these products. It has also been suggested that the cholesterol content of these alcohols confers on the emulsions prepared from them the important property of being non-congestive, i.e., they do not clog pores, etc.

#### FOUNDATION CREAM

Stearic acid	14
Wool wax alcohols	2
Glycerin	5
Caustic potash	0.75
Borax	0.25
Water	75

A survey of cosmetic literature shows that wool wax alcohols are used in toilet soaps as superfatting materials, even small traces appreciably improving the properties of such soaps. Common additions range from a quarter to half per cent, a fine and persistent lather resulting.

#### NIGHT CREAM

Wool wax alcohols	6
Soft paraffin	6
Lanolin	20
Liquid paraffin	30
Glycerin	10
Water	40

Inert products of the nature of wool wax alcohols offer ideal properties for the production of "biological" creams, skin foods, hormone creams, vitamin cosmetics, massage and suntan preparations.

Table 3  
COMPARATIVE EMULSIFYING VALUES

Water Absorption Value Mills. per 100 of base	Material 5 Per Cent Added to Hydrocarbon Base (3 pts. Petroleum Jelly, 1 pt. Liq. Paraffin)
10	Benzyl alcohol, diethylene glycol, monobutyl ether, ethylene glycol mono ethyl ether, butyl ether, and methyl ether, oleyl alcohol, triethanolamine.
20	Barium stearate, castor oil, cyclohexanol, chloral alcoholate, chloral methyl alcoholate, a-chlorhydrin, cyclopentanone, cyclohexanone, cyclohexanol stearate, dichlorhydrin, diacetone alcohol, ethyl alcohol, ethylene glycol, ethyl oleate, ethyl palmitate, ethyl stearate, ethyl sebacate, furfuryl alcohol, sec. hexyl alcohol, n-heptyl alcohol, methyl alcohol, magnesium salt of wool wax acids, magnesium stearate, methyl cyclohexanol, methyl abietate, ouricury wax, octyl alcohol, a-naphthol, $\beta$ -naphthol, pinacol, phloroglucinol, polymerised ethylene glycol, phenol, resorcinol, ricinoleic acid, shellac wax, terpineol, tin oleate, triolein, tristearin, triacetin, tributyrin, woolgrease stearine, woolgrease oleine, zinc stearate, zinc palmitate.
30	Anisyl alcohol, bitumen, glycerin, mannitan monolaurate, oleic acid, palm wax, rosin, sorbitan mono-stearate, stearanilide, sorbitol, spermaceti, white spirit, zinc oleate.
40	Amyl alcohol, butyl alcohol, carnauba wax, hydrogenated castor oil, cocoa butter, morpholine, manganese salt of wool wax acids, mannitan mono-stearate, stearyl alcohol.
50	Beeswax, cetyl alcohol, candelilla wax, glycerol mono-stearate, japan wax, magnesium oleate.
60	Polymerised ethylene, iodine.
70	Ester gum, sorbitan monolaurate.
80	Ergosterol, crude woolgrease.
90	Cholesterol stearate, iron salt of wool wax acids, mixed sterols from vegetable oil, wool wax acids (75% f.f.a.).
100	Aluminium stearate, cholesterol oleate, glycol oleate, woolgrease pitch.
110	Lanosterol (crude).
120	Aluminium oleate, benzyl abietate, butyl oleate, wool wax, mannitol, phytosterol.
130	Woolgrease fatty acids (35% f.f.a.).
140	Aluminium salt of wool wax acids, cholesterol (pure), wool wax cholesterol, (75%) wool wax cholesterol, (50%) lauryl alcohol.
150	Butyl stearate, sorbitan monoleate.
160	Amyl stearate, wool wax alcohols.

These figures will vary with the types of paraffin mixtures used, especially in regard to hardness and viscosity, and possibly the water used will also have a slight effect.

#### SUNTAN CREAM

Wool wax alcohols .....	30
Soft paraffin .....	50
Liquid paraffin .....	15
Ozokerite .....	6
Water .....	50
Oil soluble light filter .....	q.s.

Emulsified with wetting agents, wax alcohols are found to provide excellent bases for depilatories.

The use of many permanent wave solutions has a tendency to make hair brittle and dry and devoid of fatty lubricants, and in efforts to overcome these defects recourse has been made to the addition of lipoids to the solutions including wool wax alcohols, sterols, etc., either in solution or emulsion form. Wool wax alcohols can be incorporated as follows: One part wool wax alcohols is dissolved by warming in two parts of sulphonated castor oil (75 per cent). Into this solution is emulsified a solution of five parts sodium sulphite, ten parts of triethanolamine and 123 parts water. Wax alcohols have been described as having a softening effect on the hair. Incorporation in wave solutions is also useful, giving products dispersible in any quantity of water.

#### CLEANSING CREAM

Wool wax alcohols .....	2
Lanolin .....	10
Liquid paraffin .....	50
Hard paraffin .....	1.5
Water .....	45

Wool wax alcohols can be used in nail polish removers to overcome the degreasing effect of these solvent blends, and possibly in nail varnish removers of the paste or cream type. One such preparation contains, besides wax, 53 parts cellosolve, two parts cyclohexyl acetate and 20 parts triethanolamine soap.

In certain types of cosmetics, especially those designed for the specific purpose of replacing skin fats which are removed during washing operations, the incorporation of irradiated wool wax or wool wax alcohols is regarded as beneficial. The irradiation of wool wax alcohols with a view to "vitaminizing" the products, has been carried out by exposing a moving layer of the alcohols to the action of ultra-violet rays.

#### HAND CREAM

Wool wax alcohols .....	5
Hard paraffin .....	24
Soft paraffin .....	10
Liquid paraffin .....	60
Glycerin .....	5
Water .....	80

Sulphated and phosphated wax alcohols are well-known cosmetic materials, but the wool wax alcohol counterparts have not yet become available, so that the potentialities in this field have still to be investigated. They have, however, been found to be applicable as moistening, emulsifying and cleaning media and exhibit extraordinary stability towards the hardest waters inorganic and/or organic acids, and multivalent metal salts.

In processes for the manufacture of concentrated aqueous dispersions of "waxes" and rosin, wool wax alcohols are included in the term "waxes" and the procedure consists of heating together a mixture of wax and rosin, ratio 19 to one, in the presence of water, plus a calculated amount of alkali. This emulsion is of the oil-in-water type. Another oil-in-water emulsion of similar make up consists

of an emulsified mixture of neutral waxes and hydrocarbons of high melting point, with one or more alcohols including wool wax alcohols, plus fatty acids. A 2 per cent sodium carbonate solution is used as the dispersing medium, and up to six times the weight of the fatty bodies may be used.

#### OINTMENTS

As pointed out earlier, a consideration of the constitution and properties of wool wax points to the fact that although cholesterol is the predominating emulgent, the pure substance when dissolved in an inert vehicle does not quite produce the outstanding stable emulsions characteristic of the original material. In wool wax, cholesterol is associated with smaller quantities of allied substances, and the natural combination produces far more elegant and useful emulsions than does the perfectly pure chemical. Wool wax itself has never been considered a suitable ointment base, it has far too many physical disadvantages. It would appear, therefore, that a concentrated form of wool wax containing all those agents (known and unknown) having emulsifying and therapeutic properties and eliminating the inert ingredients which cause only disadvantages, will be vastly superior to wool wax itself and also to cholesterol.

Such a substance, wool wax alcohols, is now included in the Sixth Addendum to the British Pharmacopoeia under its Latin name: *Alcoholia Lanae*. Only samples meeting the standards of the Pharmacopoeia may use this title. The assay is based on the cholesterol content, and an official sample must contain not less than 28 per cent cholesterol.

In pharmaceutical practice about 5 to 6 per cent of wool alcohols blended with a mixture of paraffins enables comparatively large quantities of water to be incorporated.

The merits of water-in-oil-emulsion as ointment bases have been stressed often. In addition to all these, wool wax alcohols emulsions (as also do wool wax emulsions) have a further outstanding advantage. They are stable towards mild acids and electrolytes. This is important in ointments as it is a great asset to be able to have an acid pH preferably the same as that of skin, 5 to 5.6. Very few emulgents tolerate this pH. This property is more especially useful when antiseptic or disinfectants of an acid pH have to be incorporated, such substances are notoriously difficult to present in an emulsion base.

All the disadvantages to which wool wax emulsions are subject, are removed if wool wax alcohols are used as the emulgent. The creams so formed do not darken on their surface. Moreover, since the physical and chemical constant of wool alcohols are standardized and must conform with those standards laid down in the Sixth Addendum, emulsion ointments prepared from different batches will have the same consistency and texture. Also no objectionable odor of wool fat can be detected, and such ointments are free from the stickiness which marred wool wax emulsion ointments.

So far very little has been mentioned of the special benefits to the skin conferred by wool wax alcohols. Wool fat and its concentrated (since they so closely resemble the constitution of the sebum), must bring to the skin additional benefit supplying the damaged tissues with material which encourage a rapid return to normal. In order to appreciate their worth properly, it is necessary to understand the structure of the skin.

The various layers of the skin may be enumerated as follows:

*Epidermis  
or Cuticle.*

1. Stratum corneum: consists of dead, flattened and horny cells.
2. Stratum lucidum: clear cells can be detected, but the structure is indistinct.
3. Stratum granulosum: this consists of flattened cells fixed with granules.
4. Malpighian layer: this consists of actively dividing cells.

*Dermis.*

1. Papillae. These project upwards into the epidermis and contain capillary blood vessels. A few contain touch corpuscles.
2. Fibrous connective tissues.
3. Subcutaneous and more open connective tissues: this consists of fine elastic tissue fibres.

The sebaceous glands are composed of simple pouches, opening by ducts into the hair follicles. They are lined throughout with spheroidal cells. The sebaceous secretion is known as sebum. The fatty acids of sebum are for the most part in combination, not with glycerol, but with the higher fatty alcohols, mainly cholesterol. The sebaceous gland fat is estimated to contain 1 to 3 per cent free cholesterol.

The secretion of sebum is a continuous process, sympathetic nervous stimulation causing the unstriated muscle fibres at the base of the hair follicles to contract, and a certain amount of sebum to be squeezed on to the root of the hair and the surrounding skin. Thus the hairs are kept lubricated and the cuticle is kept supple, the latter is preserved from the drying effects of the atmosphere by preventing undue evaporation of water.

To a skin which is damaged and which is not carrying out its natural function, the presentation of cholesterol in an assimilable form can only result in benefit. Water birds such as the goose and duck are particularly rich in cholesterol and its esters, and it would appear to be ideal for incorporation into ointment bases.

A recognition of the value of wool wax alcohols as an ingredient in an ointment base (ointment of wool alcohols) and also as an emulsion (hydrous ointment) is reflected in the inclusion of these preparations in the Pharmacopoeial new ointment bases. Ointment of wool alcohol (consisting of wool wax alcohols in a mixture of hard, soft and liquid paraffins) must be regarded as an oleaginous type.

The Hydrous Ointment consists of equal parts of ointment of wool alcohols and water. It is a creamy white, and when made correctly, a stable emulsion. It would appear that ointment of wool alcohols very nearly approaches the ideal, in that without water it affords mainly protection but also some absorption, and as an emulsion with water (Hydrous ointment) it offers absorption and penetration principally, but also some degree of protection. The two ammoniated Mercury ointments and the two Zinc Oxide Ointments (both of the Seventh Addendum of the B.P.) present examples illustrating this point. Ointment of Ammoniated Mercury consists of ammoniated mercury in a simple ointment base, and is to be used when a local protective action is requisitioned. Hydrous ointment of Am-

moniated mercury contains ammoniated mercury in hydrous ointment. Because this latter base is absorbed far more rapidly than simple ointment, then less of the active ingredient is necessary. Ointment of ammoniated mercury contains 2.5 per cent of ammoniated mercury; hydrous ointment of ammoniated mercury contains 1 per cent of ammoniated mercury.

The Sixth Addendum to the B.P. 1932 prescribed the following formula for Ointment of Wool Alcohols:

Wool wax alcohols .....	6.0
Hard paraffin .....	24.0
Soft paraffin .....	10.0
Liquid paraffin .....	60.0

Either the white or the yellow variety of soft paraffin could be used. In the Seventh Addendum there is the proviso that the proportion of the paraffins could be varied, and that the liquid paraffin could be wholly or partly replaced by the light liquid paraffin, in order to produce an ointment having suitable properties. The hydrous ointment is made by incorporating an equal quantity of water into ointment of wool alcohols.

It is reasonable to conclude from a survey of the published work on the preparation of these new ointment bases that a careful technique is essential for successful results. Ointment made with paraffin samples having low melting points would be softer and less granular than those with samples of high melting points. This would be more marked in the case of the hard paraffin than with the soft variety.

Another important factor, and this only concerns the hydrous ointment, is the manner in which the emulsion is made. An emulsion made by means of a pestle and mortar can never compete in appearance with that made by means of a homogenizer or an ointment mill. The finer the globes of water in the disperse phase, the whiter and more stable will be the emulsion. It is realized that such machinery is not possessed by all those desirous of making emulsion ointments. On the manufacturing scale, however, it is difficult to imagine how large quantities of the emulsion ointments can be made without a mill or a homogenizer. Nevertheless, it is still possible, now that the Seventh Addendum authorizes the variation in the proportion of the paraffins and the substitution of light liquid paraffin for liquid paraffin, to make small batches in a mortar. Such preparations are not so stable to climatic conditions as those made by the machine, but nevertheless are satisfactory if precautions are taken to store them correctly.

Provided that special care is taken in following the directions every time batches of the base are made, there should be no difficulty in producing a preparation free from any lumps whatsoever. The formula submitted is intended for ointment of wool alcohols alone, and for conversion to hydrous ointment when a homogenizer or mortar will be used. For the preparation of hydrous ointment by means of an ointment mill, a slightly modified combination is suggested.

The following combination produces an ointment of satisfactory consistency; the formula is equally applicable for large or small scale preparations:

Wool alcohols .....	6.0
Hard paraffin .....	17.0
Soft paraffin .....	17.0
Liquid paraffin .....	60.0

Melt the hard paraffin (preferably shredded or broken into small pieces) in a suitable container at a temperature not exceeding 65 deg. C. On a small scale this is performed in

a dish on a water bath. On the manufacturing scale, a steam pan, the temperature of which is suitably regulated, would be quite satisfactory. Add the wool alcohols in small pieces and continue heating until melted. Great care must be exercised to prevent over-heating at this stage. Mix the molten material thoroughly. Add the soft paraffin and continue heating below 60 deg. C. until melted; again mix the melted materials. The liquid paraffin previously warmed to about 50 deg. C., is then added. By adding the liquid paraffin at this temperature, separation of the ingredients is prevented. Should the materials separate it will be necessary to heat at as low a temperature as possible < 60 deg. C. in order to remelt. After the ingredients have been well mixed, transfer to the final containers and allow to cool undisturbed. The containers should be slightly warm to prevent premature solidification round the sides and the bottom. No advantage is to be gained by stirring until cold, although such a procedure in no way affects the finished product. If it is decided to allow the ointment to cool without stirring, it is essential that the material should not be disturbed at all during this period and for several hours afterwards. In fact it is preferable to allow it to stand overnight before removal.

*Ointment of Salicylic Acid* is the only official medicated ointment made from ointment of wool alcohols. It contains 2 per cent of salicylic acid.

If the ointment of wool alcohols has been made previously it is necessary to melt it at as low a temperature as possible, and then incorporate the salicylic acid in fine powder. The ointment must then be stirred until cold. When a batch of ointment of salicylic acid is to be made ab initio, the ointment of wool alcohols is made first, and while still molten, the salicylic acid is added. Again the preparation must be stirred whilst cooling.

On a small scale a satisfactory preparation can be made by incorporating the salicylic acid into the warm base by livigation on a tile or trituration in a warm mortar.

*Hydrous Ointment* is to contain equal parts of ointment of wool alcohols and distilled water. It is advisable to carry the formula of the ointment of wool alcohols to be used as the base, according to the method chosen for the preparation of the hydrous ointment.

The use of an ointment mill produces preparations vastly superior to those produced by any other method. The only alteration found necessary to the official formula for the preparation of the ointment of wool alcohols was the substitution of light fluid paraffin. The following formula was found to give excellent results:

Wool wax alcohols .....	3.0
Hard paraffin .....	12.0
Soft paraffin .....	5.0
Light liquid paraffin .....	30.0
Distilled water .....	50.0

The ointment of wool alcohols is made exactly as before. While still warm the correct amount of water, at a temperature of about 40 deg. C. is added gradually with constant stirring. The emulsion is then triturated briskly until a smooth cream is obtained. When quite firm but still warm, the ointment is passed through the ointment mill. An even better product may be obtained if the ointment is milled a second time.

The base recommended under ointment of wool alcohols was found satisfactory for the preparation of hydrous ointment when an homogenizer is available. The complete formula is as follows:

Wool wax alcohols .....	3.0
Hard paraffin .....	8.5
Soft paraffin .....	8.5
Liquid paraffin .....	30.0
Distilled water .....	50.0

The method of preparation of the base is unaltered. The water should be added when the molten paraffins and wool alcohols are at 55 deg. C. It is important that the water should be at the same temperature. Stirring is continued until the temperature falls to about 40 deg. by which time the emulsion will have formed and the product should be thick and creamy. At this stage convenient portions are transferred to a warm homogenizer. The main bulk of the non-homogenized ointment should be kept at about 40 deg. while waiting to be passed through the machine.

For the preparation of small batches by hand, the molten paraffins and wool alcohols at about 55 deg. C. are added with constant stirring. The emulsion so formed is triturated vigorously until a smooth cream is obtained.

*Hydrous ointment of Ammoniated Mercury* contains one per cent of ammoniated mercury in a hydrous ointment base. On a small scale ammoniated mercury is triturated with a portion of the base until smooth. The remainder of the base is then incorporated and the product made homogeneous.

*Ointment of Zinc Oleate* contains equal parts of zinc oleate and hydrous ointment; the zinc oleate is freshly prepared from zinc sulphate and hard soap. When the ointment was made with a hydrous ointment, prepared from the Sixth Addendum proportions of paraffins and milled even with light liquid paraffin in place of liquid paraffin, the product was extremely hard and scarcely suitable as an ointment. A hydrous ointment prepared from the modified formula as used when homogenizers are employed, gives a satisfactory ointment of zinc oleate when mixed with an equal weight of freshly prepared zinc oleate.

It is essential to use a clean sample of hard soap and to scrape away the brown resinified rind of the bar before grating the soap to facilitate solution. It is equally important to drain the washed zinc oleate thoroughly to prevent addition of excessive amount of water. The hydrous ointment is added to the zinc oleate melted at as low a temperature as possible. Heating and mixing is continued until the product is homogeneous and it is then stirred until cold.

Although subsequent milling does improve the texture of the ointment, that made by hand in a mortar with the above formula is quite acceptable. No separation takes place from either the milled or the non-milled sample after storage at room temperature for a month.

*Hydrous Ointment of Zinc Oxide* contains 15 per cent of zinc oxide in hydrous ointment. The method in making this ointment is the same as the one given in the previous ointment.

#### STABILITY OF HYDROUS OINTMENT

Samples of hydrous ointment prepared by the three different methods (a) in an ointment mill, (b) in a homogenizer, (c) in a mortar, have been placed in an incubator at 37 deg. C. After hour hours they were examined. All the samples were quite stable. There were no signs of separation of the two phases from the sample made in the mill. Those samples made in the homogenizer and in a mortar showed signs of separation, the latter more so. The test was repeated leaving the samples in the incubator for only

two hours. There were no indications of separation after this shortened exposure.

It is to be concluded that the Hydrous Ointment B. P. is best made in an ointment mill. Because of the comparatively large amount of water it is intended to absorb, it does not seem possible to prepare a permanently stable emulsion by hand that will withstand the hot climate submitted. However, for temperate climates the products resulting from the formulae submitted will maintain their stability for quite long periods. At room temperature, 15 deg. C. no signs of separation were observed after storage for three months. This was the longest period that they were under observation.

It is interesting to record the melting points of the various ointments of wool alcohols described in the section. That made according to the Sixth Addendum formula, melted at 34 deg. C. (The method and apparatus used was that described in the British Pharmacopoeia for the determination of the melting point of soft paraffin.) With the substitution of light liquid paraffin for liquid paraffin the melting point fell to 32.5 deg. C. Variations of the proportions of the hard and soft paraffins hardly affected the melting points of the ointments so produced. It is, therefore, possible that melting point is in no way correlated with ointment-like consistency.

Cholesterol is used as an emulsifying agent in the preparation of suppositories or other shaped medicaments, prepared with a plastic base consisting of an emulsion of a fat melting at body temperature with a glycerin-containing aqueous solution of gelatin, or a vegetable mucilate capable of setting to a jelly on cooling.

#### REACTION PRODUCTS OF MIXED WOOL WAX ALCOHOLS

The remainder of this article deals with the reaction products of wool wax alcohols and one or two of the uses to which these products have been put.

The fatty alcohols mixture obtained from wool wax has been found to be suitable starting material from which to prepare metal alcoholate. Designed in the first instance for inclusion in solvent gels, the alcoholates are obtainable by known methods or, in so far as they are new compounds, produced analogously to the known higher alcohols.

The metals sodium, potassium, aluminum, barium, calcium, magnesium, zinc, etc., have proved particularly suitable for production of these alcoholates and they are worked up to gel-like compounds with solvents. Different metals give different qualities of products, of course, and some have been found useful as stiffening agents for waxes and many other diverse uses.

It has been noted earlier that substances having anti-rachitic properties may be obtained by subjecting steroids—(compounds containing the reduced cyclopentenophthenanthrene ring system, thus including sterols, bile sterols, heart poisons, saponins and sex hormones and in addition according to the patent specification from which the information was derived, derivatives of sterols such as esters, ethers and hydrocarbons—having positive Liebermann-Burchard tests) to the action of compositions containing sulphuric acid and acetic anhydride at relatively high temperatures. It is not essential to employ pure Liebermann-Burchard steroids such as cholesterol or ergosterol, as wool wax alcohols are given in example as specific starting materials.

In an example, the alcohols were mixed with acetic acid, into which mixture sulphuric acid is gradually poured, followed by the anhydride, after which the mass is heated for three hours at 93 deg. C., the acetic acid being removed under vacuum and the washed residue neutralized with lime, yielding a product of a potency of 425 A.O.A.C. units per gram. Similar results have been obtained by irradiating the alcohols when the creation of a vitamin D content is claimed.

Condensation product in the form of water-soluble sulphonated derivatives of wool wax alcohols has been produced with the aim of overcoming many disadvantages attending the straight sulphonated alcohols described later. Essentially, the process for their production consists of esterifying with boric acid and subjecting the boric esters or borates so formed to treatment with a sulphonating medium in the presence of other boric esters or borates. In these latter products, however, aliphatic alcohols, e.g. sperm oil alcohols or oleyl alcohol are employed. The compounds formed, after neutralization in the usual manner, dissolve very easily in water, giving weakly yellow solutions; they are excellent wetting, washing and especially softening agents, and improve soaps.

Of the various esters synthesized from wool wax alcohols, mention might first be made of the phosphoric acid esters. The preparation of the esters requires the melted alcohols to be stirred with phosphorous pentoxide at 70 deg. C., then left until separation into two layers takes place when the upper one is decanted and contains free anhydride and esters. Wool wax acetates and formates have been prepared.

Other phosphoric derivatives of wool wax alcohols are involved in a process for the manufacture of wetting agents by treatments of the alcohols in the presence of the soap formed in their manufacture by saponification, with phosphorous trichloride. The products are converted into glyceryl esters and sulphonated water-insoluble boric acid esters of wool wax alcohols are produced if the alcohols are treated with boric anhydride. These are soluble in organic solvents.

Stearic acid esters of wool wax alcohols have been mixed or rather emulsified with water, carbon tetrachloride and alcohols and used as cleaning agents.

On the subject of ethers of wool wax alcohols, these have been prepared and used for cleansing, in one case in a sulphonated form, and in admixture with ethers of alcohols with less than six carbon atoms. Small additions of these chemicals are said to improve the detergent properties of salts of the type of trisodium phosphate or water-glass.

Preparations having the constitution of ethers are obtained when fatty alcohols, including wool wax alcohols, are introduced over a period of an hour, into ethionic acid at 50 deg. C. while stirring, which is continued until test samples are soluble in water, when the mass is converted into sodium or ammonium salts, being very suitable apparently for use as soap substitutes.

Wool wax alcohols freed of agnosterol and lanosterol have been acetylated and subsequently treated with sodium-glycerate or glycolate and the ether formed, separated, purified, dried and sulphonated, giving derivatives of excellent surface activity. This is stated to be a very smooth way of obtaining wool wax ethers.

Water soluble phenolic compounds of wool wax alcohols

may be obtained by heating reacting proportions with the hydrohalide of sulphuric acid salts of complex phenolic amines (obtained by condensing phenol, formaldehyde and secondary amines). Such materials are described as emulsifying, dispersing and germicidal agents. These alcohols, the refined unsaponifiable components of wool wax have been used in processes resulting in colloiddally water-soluble compounds, useful as soap substitutes by reacting with or without the aid of solvents with sodium metal, giving brown wax-like substances about which the statement is made that they are not saponification products, since no (H) — or (OH) — ions are added, the main quantities of the metal being recoverable, and only such quantities having been used that the final pH value is about 9.5.

The sulphonation of wool wax alcohols has been achieved by various methods including, for instance, a method in which the alcohols are mixed with 98 per cent sulphuric acid and gradually heated to 100 deg. C. Acetic anhydride is admixed, the mixture being kept well stirred for several hours, after which time the mass is poured into ice water and the reaction products washed after addition of sodium sulphate, when they may be converted into their alkali salts. The applications especially outlined for such derivatives include those of emulsifying and cleansing media. Another process converts the alcohols first to their acetates, then sulphonates these compounds with oleum and chlorosulphonic acid.

A third process is based on the finding that the sulphuric acid esters of monohydric alcohols of high molecular weight can be obtained in a very simple manner, without secondary reactions, by treating them with additional products of sulphur trioxide and a liquid organic tertiary base — e.g. pyridine. For instance, chlorosulphonic acid is dropped into anhydrous pyridine at below 10 deg. C., and to this mixture is added a pyridine-wool wax alcohols blend, when the whole mixture is heated to 40 deg. C. (this temperature) for two hours. It is then cooled and neutralized with caustic soda, the pyridine and water removed by distillation and finally the residue is extracted with alcohol, giving esters in 90 per cent of theoretical yield.

Sulphonation products of wool wax alcohols, which are simultaneously esters and sulphonic acid, are known. These

are prepared by direct reaction of the alcohols with polysulphonic acids of aromatic hydrocarbons, stoichiometrically, so that the final products still contain one unesterified sulphonic group. An illustration of this process first prepares naphthalene disulphonic acids by reactions of oleum and naphthalene, which are subsequently mixed with the fatty alcohols, keeping the temperature below 35 deg. C. The sulphonates so formed are introduced into ice water and neutralized with soda lye. These sulphonates serve as washing agents and are claimed to have extraordinary stability, being completely stable to the hardest waters; inorganic and organic acids and multivalent metal salts without precipitation. They have also been used as starch dispersing agents.

- Amer. J. Pharm. 1933, **105**, 186; 1939, **111**, 430; 1939, 340.  
Arch. & Pharm. 1908, **246**, 117.  
American Patent Specifications.  
American Perf. & Essent. Oil Record 1940, 52; 1941, 33.  
Ann. Chim. Farm. **47**, 62.  
British Medical Journal 1926, 1076; 1908.  
British Journ. & Derm. & Syph. 1941, **52**, 34; 1939, 211; 1940, 21; 1940, 34.  
Biochem. Zt. 1932, **249**, 312; 1936, **288**, 429; 1930, **218**, 86; 1935, **281**, 121; 1924, **132**, 101; 1925, **159**, 76.  
Bul. Inst. Med. Expt. 1939, 370; 1935, 290.  
British Patent Specifications.  
Ber. 1936, **69**, 2696.  
Bul. Inst. Med. Expt. Etnad. Cancer 1939, **16**, 129 & 269; 1939, **15**, 587.  
Bull. Inst. Egypt. 1933, **15**, 159.  
Bull. Nat. Formulary Comm. 1939, **8**, 46.  
Bull. Soc. Chim. 1934, **54**, 1219; 1934, **54**, 1290; 1933, **53**, 1408.  
Chem. & Drug. 1943, 250.  
Congr. Inter. Quim. Pure. Aplicada (Madrid) 1936, **5**, 325.  
Dent. Perf. Zt. 1932.  
Drug & Cos. Ind. 1935, **36**, 741; 1938, **43**, 299.  
Drug & Cosmetic Industry Catalogue, 1933.  
Fette u. Seifen. 1938, **288**, 429.  
German Patent Specifications.  
Gazz. Chim. Ital. 1942, 62.  
International Export Chemist. 1941, 398.  
J. Amer. Pharm. Assoc. 1942, **31**, 105; 1943, **32**, 25; 1940, **29**, 326; 1938, 1217; 1944, **33**, 1940, 226.  
J.S.C.I. (Jap) 1938, **41**, 227B; 1929, 232.  
J. Biol. Chem. 1938, **144**, 505; 1926; 1937, 655.  
J. Amer. Leather Chem. Assoc. 1938, **33**, 202.  
J. Pharm. Soc. (Jap). **59**, 418.  
J.A.C.S. 1937, **59**, 137 & 1368.  
Journ. of Hygiene 1945, **44**, 53-55.  
J. C. S. 1940, 106; 1932, 232; 1941, 172; 1936, 1562.  
Kolloid. Zt. **85**, 272.  
Manufacturing Chemist. 1941, **36**; 1943, 8.  
Mfg. Perfumer. 1937, August.  
"Organic Synthesis" Vol. 17, 45.  
O.C.T.J. 1942, May.  
Oester. Chem. 1940, **43**, 87.  
Pharm. J. 1913; 1943, 203; 1939, 327; 1939, 329.  
Practitioner. 1940, 258.  
"Principles of Human Physiology" Sterling (Churchill) 1941.  
"Practical Emulsions"—Bennet (1943).  
Pharm. Zentralhalle 1933, **74**, 199.  
Proc. Roy. Soc. 1936, **A.147**, 194.  
P. & E.O.R. 1940, 36.  
Rayon Textile Monthly. 1942, 23.  
S.P.C. 1938, February; 1935, June; 1944, August.  
Trans. Farad. Soc. 1937, **33**, 1081.  
Verhandl. Path. Dept. 1925, 18.  
Ztf. Physiol. Chem. 1936, **241**, 100; 1920, **109**, 183; 1931, **190**, 51; 1921, **114**, 123.



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